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COMPUTING INTERNATIONAL

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SEPTEMBER 1986

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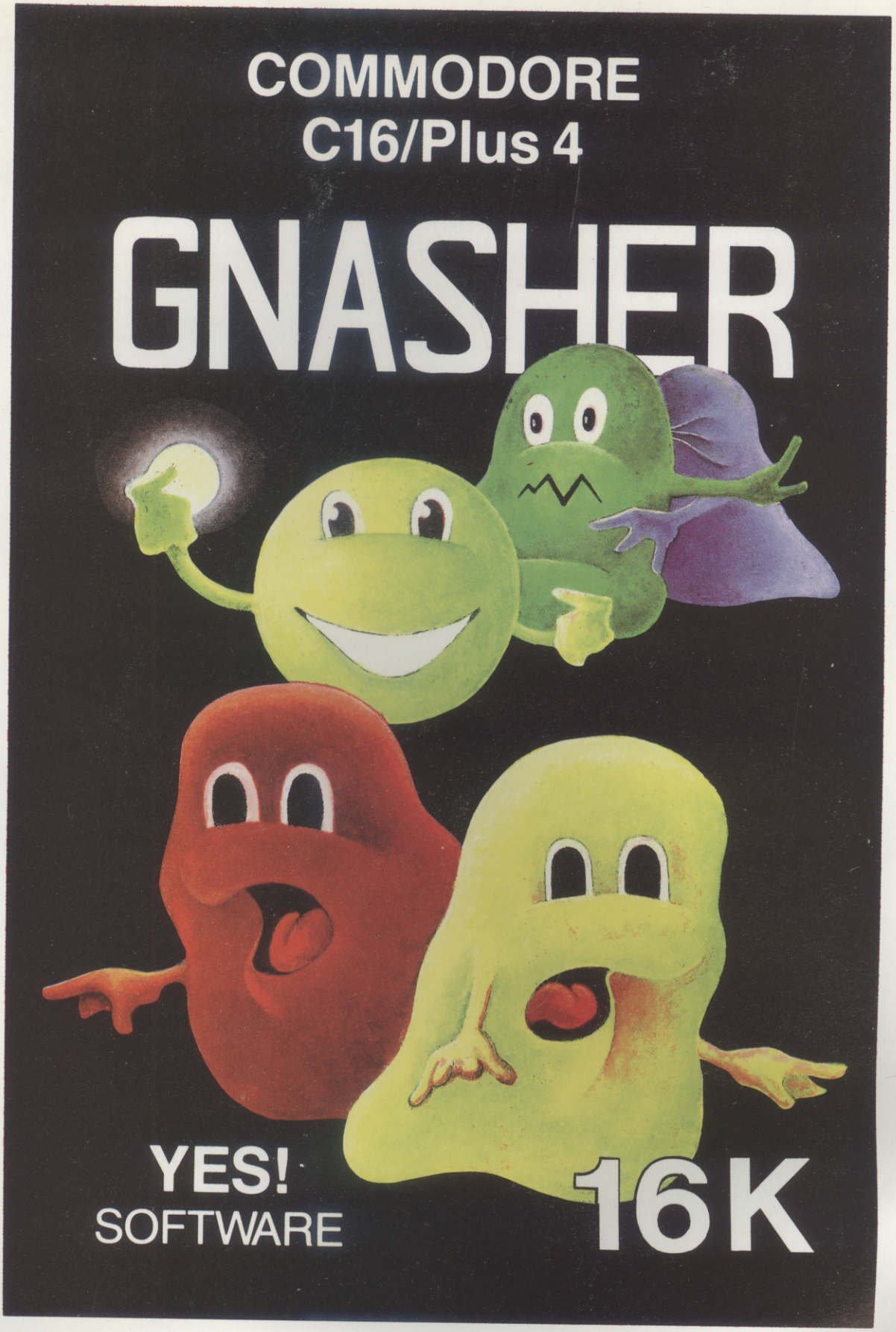

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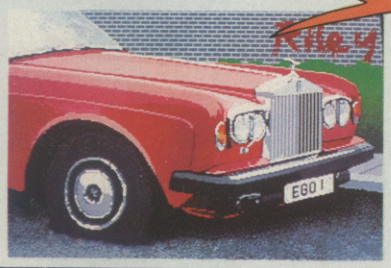
Inside COMMODORE COMPUTING INTERNATIONAL

September 1986

Feature OF THE MONTH



AMIGA

COMMODORE GETS IT RIGHT: The Amiga-special supplement.

...NEWS

OVERVIEW
Sweet 16 for Melbourne, Fist II explodes onto the scene... W.A.R. out from Martech, Goodies from Ariolasoft... and a $10 million Amiga beater... etc 6,7,8

...FEATURES

GRAPHICS
Hugh Riley explores Rainbird's The Art Studio, boosts his ego with a Rolls Royce... Graphic Adventure Creator; eat your heart out Level 9! 10, 11, 18

SOUND
Play Music Studio with Ian Waugh 13, 14
Music Compendium - Mr. Waugh strikes another note? 17
Superior's Speech speaks for itself 21

GEOS-WRITE
Don't be a WIMP (?!) 23

NYMPHS & NODULES
... join the Titanic! 64

FIRST PUBLISHING
... legal battles for a formidable duo! 67

STARTER'S ORDERS
... Wanna bet? 80, 81

MUD AND BASIC FOR BEGINNERS BACK NEXT MONTH! SORRY, NO SPACE--

...REVIEWS

SCRIPT PLUS
a C16/+4 w/p 24

SUPER DISK DOC;
drives driving you crazy? 58

CALKIT
Ariolasoft's professional series 59

GAMESWORLD

28

C64/128 Core... Saboteur... Sam Fox Strip Poker (!) Rupert and the Ice Castles... Floyd the Droid & Ghosts'n Goblins (an awesome double?)... Alligata's Trap... Knight Games... Popeye vs. Ninja... Action Pack (4 games!)... Fab 4... Snow Queen... Hunchback — the adventure (Mega!)... And two AMAZING previews — Deactivators and... no... we're not allowed to tell you its name, but look on page 45 for the hottest secret around!

C16/+4 The incredible new Winter Events (Exclusive!)... Kung-Fu Kid... Jack Attack... Gullwing... Bombjack... Frank Bruno's Boxing... Sword of destiny... Myriad... and Shark. Plus some brill competitions.

...CONSTANT FACTORS

FELIX IS DEAD
— long live Super Felix! 30, 31

FIGHTING WORDS
— More tough Minter yakking 52

BOOK REVIEW 69

PROGRAMMING
Adventure with some hot utilities 54
— Mini-Sheet, a sexy spread-sheet? 71

128
— The definitive portfolio of packages 77

ICPUG
— The Column 78

NEXT MONTH Special PCW issue — All the hottest releases for the show... Massive add-on guide... EXCLUSIVE-Micromud-the adventure sensation of the decade! PLUS... loads of goodies for you to grab in our competitions, and bags of money-off vouchers. Besiege your newsagent NOW!

THE FINAL CARTRIDGE

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This new operating system built in a cartridge does not use any memory and is always there. Compatible with 98% of all programs.

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ADVANCED CENTRONICS INTERFACE - compatible with all the well-known centronics printers and Commodore printer programs. Prints all the Commodore graphics and control codes (important for listings).

SCREEN DUMP FACILITIES - of low-res Hi-res and multicolour screens!! Prints full page with 12 shades of grey for multicolour pictures even from games and programs like Doodle, Koala pad, Printshop etc. Searches automaticly for the memory-address of the Picture. Special version available for the CBM 801 and 803 printers.

24K EXTRA RAM FOR BASIC-PROGRAMS AVAILABLE: Two new commands „Memory read", „Memory write". They move 192 bytes with machinelanguage-speed anywhere in the 64K Ram of the CBM 64. Can be used with strings and variables.

BASIC 4.0 COMMANDS - like Dload, Dsave, Dappend, Catalog, etc.

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* works with C128 in the 64 mode.

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CCI View

Dear Reader,

The summer is traditionally a quiet time . . . Yet this year there has been no let up at all. The public launch of the AMIGA, outside of the U.S. in May has bought a totally new dimension to the Commodore world. At the London's PC User Show, the AMIGA's exciting business potential was probably the biggest point of interest in the show. Yet several times, from visitors to our offices and outside, we have heard the AMIGA described as the ultimate home entertainment machine. Evidence of both views is clear in this issue of Commodore Business and AMIGA User bound into this CCI. It looks really an exciting beginning.

CCI also contains a number of equally interesting but sharply contrasting articles and features. We have games coverage that is now acknowledged to be the most comprehensive across the field of Commodore machines. And there is a surprising flood of new games to test. We also carry in depth features on graphics and sound. And of course, reviews of a wide range of products in which, as usual, CCI leads the field. We're happy that the people at ZZAP are suggesting to their readers that they should read CCI, even to learn it by heart! It shows very agreeable humility when one magazine acknowledges the superiority of another.

What worries us is that 'the fluffy lollipop factory', as we hear they now call their magazine, is in such dire straits that it cannot afford to buy a Commodore compatible printer. That's a very sad state of affairs. I think CCI readers might like to help them by sending them any old printers that are lying in the cupboard and if anyone has any old ribbons too, 'the fluffy lollipop might be grateful.

As for new names for ZZAP (I asked for in CCI August) we received many suggestions but as CCI is a magazine that is read by all ages and sexes, we don't feel it would be proper to print them. Thanks for your efforts anyway.

Yours sincerely,

Antony Jacobson
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ASA Ltd	A29
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Calco	62
Cavendish CBM Centre	A13
CIC	62
Colleen	17
Compumart	66
Compumed	A22
Computatill	81
Comspec	A34
Database	12
Data Design Techniques	A47
Datel	15
DDL	A45
Delta Pi	60
Digital Solutions	A2, A3
Dimension	9
Discovery Software	A27
Dosoft	43
Dynamite	43
ECL	53
Enhancer	26
Evesham Micros	63
FCC	62
First Publishing	68
First Software	66
Gemini Marketing	65
Gremlin Graphics	28
H & P	4, A31
Hi Voltage	A19, 60
HSV	60
ICPUG	60
Incentive	83
Konix	41
Lionheart	A22
Magnam	73
Metacomco	A13
Microillusions	A10
Micromedia	22
Micropro	27, A39
Microsmiths	A12
Modem House	19
New Tek	A6
Novagen	43
PAR	A22
Parasoft	25
Precision Software	A15
Roundhill	A29
RS Data Systems	A8
Sabre	61
School Software	83
Selec	81
64 Software Centre	70,79
Sophus	A23
Superior Software	20
Supersoft	84
Transtime Technologies	A26
Trilogic	68
Total Office S/w Ltd	A42, A43
Tynesoft	Insert
UK Soft Centre	44
Wizard	60
Yes! Software	2

Dedicated to S.I.!

...news ...news ...news ...news

Top Printers

According to market research firm, Context, the Epson LX80 and Epson FX105 are Britain's top selling dot matrix printers. The two models gained Epson a 41.2% share of the total market during the first three months of 1986.

Dot matrix printers accounted for 77.1% of all printers sold compared to 13.7% for daisywheel printers and just 2.2% for laser printers.

And while Epson took 51.6% of the dot matrix market, it was Brother, with 37%, that grabbed the largest slice of the daisywheel market followed by Olivetti on 14.2% and Juki with 11.3%. Context estimates that the laser printer market is equally split between Apple, Hewlett-Packard and Canon.

Cold Comfort

In the U.S. General Electric are now selling a microprocessor controlled refrigerator. This "smart" fridge can be programmed to do lots of things for itself. Not just auto-defreeze, of course, it can, by using sensors and controls warn that the door is open, that the temperature is not sufficient for certain foods and distinguish between different required levels of cold. It also has an ice and cold drink dispenser in the door. At $1750, we have heard it said that it may be the next product off the Amstrad production line. After all what could be more natural than to find Sugar in the kitchen?

Wordcraft Goes Nova

WORDCRAFT Nova, a version of WORDCRAFT designed for the first-time word processor user has been released. It is aimed at companies who employ typists and educational establishments who train typists.

Nova comes complete with its own interactive HELP system and is easily upgraded to the full WORDCRAFT package when the user requires the more advanced features such as spelling checker, direct mailing and background printing.

WORDCRAFT Nova is around £150.

Beyond the Tee-shirt

A free tee-shirt is available for Beyond fans who buy the Company's latest release, Bounces.

The tee-shirt, which would normally retail at £5.95, is available free for all those who buy Bounces and one other Beyond game at the PCW show or by mail order.

US Gold on the move

US Gold and Centresoft, its distribution arm, are moving into IMI's Holford, a prestigious £28 million industrial estate in Birmingham.

With a dramatic increase in turnover over the last 18 months, both companies are now 'bulging at the seams' and expect to employ a further 50 staff after the move.

Geoff Brown, Managing Director of US Gold, commented that 'Holford compares very favourably with the best of the Californian Developments or the advanced industrial estates in the South of France in the quality of both its building and its environment. Another advantage is its location, US Gold and Centresoft operate a 24-hour distribution service — an order phoned to us by 6 pm is in the retailers store the following day — and we export to more than 30 countries, so that being so close to the motorway network and to Birmingham International Airport is essential to us.'

Geoff Brown added: 'This will be our fourth move in the past five years. Now at Holford we'll have premises which will allow our future expansion into manufacturing in every major European country and also expanding our leisure distribution.'

US Gold represents more than 30 American software producers and by the end of 1985 had produced 1.6m cassette games, 200,000 disk-based games and 75 software titles in 119 versons over all machine formats, including Commodore 64. The company is also looking to expand its existing involvement in computer packages for small businesses and for educational use.

Two new Palan Joysticks

Two new computer games joysticks have been launched by Palan Electronics. They are the Fantastic III and the Quickshot II Plus.

The Fantastic III is compatible with Commodore Vic and Commodore 64 computers and its streamlined and contoured base is designed so that its handgrip and centre of gravity suit the playing habits of different users. The 'hold-as-you-like" handgrip has rapid-action dual electronic fire buttons to suit both left- and right-handed players. It has eight directional fire movements with auto centering, and auto fire control. It also has an extra-long, two metre cord.

The long-awaited Quickshot II Plus has microswitches with auto-fire capability, and two fire buttons, so users can shoot with thumb or trigger finger as appropriate or convenient. The auto-fire switch allows players to unleash a continuous stream of bullets by locking the mechanism. Six microswitches improve the sensitivity and durability of the joystick, while the ergonomically-designed handgrip ensures comfort over long periods of use.

Single-handed video game play is possible with Quickshot II Plus as a result of the fitting of built-in stabilising suction cups.

Suggested retail prices are £6.95 for the Fantastic III, and, for the Quickshot II Plus, £12.95, both inclusive of VAT.

ACE American deal

After months of intense negotiation, Cascade Games have entered into a US licensing agreement for their ACE flight simulator.

The Spinnaker Software Corporation of Cambridge, Massachusets, is one of the top three US producers and Cascade are 'thrilled'.

Better known in the US for their educational software, Spinnaker will release ACE on their UXB label — the label responsible for American sales of 'Way of The Exploding Fist' or 'Kung Fu' as its called in the US.

Star Reduce Prices

In response to the bouyant home computer market Star Micronics UK Ltd have reduced the retail prices of two of their current models.

The printers are the 18cps PowerType daisywheel printer and the 60cps stx-80 thermal printer. Both compatible with the Commdore 64.

In the case of the PowerType the provision of true letter quality printing at £229 (reduced from £349) seems remarkable value for money. The printer uses standard Qume control codes which allow it to be used with a wide range of commercial software and features both parallel and serial interfaces as standard. With the stx-80 now costing just £79 (reduced from £149) the home computer user can obtain excellent print quality in virtual silence at less than half the cost of a conventional dot matrix printer.

Modem and phone link

Dacom Systems claims its Dataphone 1-3 is the first combined modem and telephone.

The 'executive-style' telephone features a nine-number directory and last number redial, and has four different ringing tones for easy identification in a noisy office. The modem conforms to standards V21 and V23, giving it speeds of 300bps and 1200/75bps respectively and making it suitable for electronic mail, viewdata and PC-to-PC communications.

It can also be used in 1200 baud half duplex mode. Connection to the PC is via the standard RS-232 interface.

Price: £245.

Prize of your dreams

Watch out for shops participating in the Alligata 'Prize of Your Dreams' promotion.

Next time you buy an Alligata tape or disk from one of these retailers you should receive an entry form for the competition draw. Fill in the card and return it to Alligata and you are in the draw with a chance to win a prize of your choice up to a value of £500.

...news ...news ...news ...news

Miracle modem

Miracle Technology (UK) Ltd, is set to take the data comms world by storm with its new low-cost intelligent modem, the WS4000.

Fully intelligent and speed buffered, the WS4000 offers autodial and autoanswer as well as Hayes-type compatibility for only £149.95 exc.

A major feature of the WS4000 is its upgradeability. In its standard version it supports the CCITT V21 and V23 standards, offering speeds of 300, 600, 1200, 1200/75 and 75/1200 baud. A host of optional uprades includes V22 1200 baud full duplex and V22bis 2400 baud full duplex, plus options of DTMF tone dialling, battery-packed internal telephone directory, process control port, and fully approved BELL standards for transatlantic communication. All options are available at the time of original purchase or a later factory upgrades.

Miracle Technology's Sales and Marketing Manager, David Baxter, told CCI 'The WS4000 brings the world of data communications within the reach of everyone. Access to services such as Prestel and Telecom Gold, as well as the world's databases and bulletin boards, has never been easier, or cheaper! Now the serious home user as well as the businessman can enjoy the advantages of a fully intelligent modem without incurring heavy expense.'

Shades on Micronet

By the end of August, Micronet members will be able to enjoy a Multi User Game (MUG) in the form of SHADES. Competitively priced at 99p per hour, with no registration fee, the game should prove to be very popular with Micronet members. Accesses to SHADES at off peak times will be charged at local telephone call rates.

Micronet members have requested MUG for some time, but up until now, Micronet was unable to find a version that was not only economical but which could also cope with a large number of simultaneous access.

Having chosen SHADES as Micronet's Multi User Game, Technical Director Mike Brown then had to apply himself to the problem of gateway software. He designed the protocol to convert scrolling text into viewdata format using split screen windows and is understandably pleased at the result.

Mike commented, 'The overall effect is extremely good. We've exploited the positive features of viewdata — including colour — to provide elegant, inexpensive, access to SHADES'.

Photographic Memory

eSCAN, which can 'read' images and store them on disk and convert text images into a readable format, has been released by Tecmar.

Drawings, graphs, photographs, handwriting or any document can be stored on disk. Letters and other text can be converted into Ascii format to be read by word processors.

Images can be treated as ordinary files and printed out, displayed on screen, edited, combined with others or sent over modems to other computers.

A single page of text can be read and stored in 40 seconds and without compression takes up about 618 Kbytes of disk. eSCAN costs £1,995 plus VAT. It is available for the IBM PC, XT, AT or compatibles. You need a minimum configuration of 10 Mbytes of storage and 256 Kbytes main memory.

Contact: Tecmar, Tel 08893 2275.

Ariolasoft spells it out

Watch out for 'Paperclip with Spellpack' — a new enhanced version of the comprehensive word processing program from Ariolasoft. It now features an automatic spelling-checker and built-in dictionary.

'Paperclip' — a former number one 'US Billboard' chart hit — is a comprehensive word processing program with full screen edit.

Its partner, 'Spellpack', is a computerised dictionary containing over 15,000 of the most commonly-used English language words. You can add your own personal dictionary to suit your own specific area of expertise and 'Spellpack' will compare each word in your document with its internal dictionary. If a word in your document is not in the dictionary, that word is highlighted on the screen.

For the C64, Disk £59.95.

Free gold

Buyers of the Hayes Smartmodem 1200 or Smartcom II software can now obtain a free Telecom Gold mailbox. The modems can only be obtained from authorised Hayes dealers.

Details: 01-847 4471.

Wordcraft Projects Users Data

Wordcraft have incorporated security systems into the software to help users meet the requirements of the Data Protection Act. The extra facilities include Password Protection and Scrambled Data Transmission.

Password Protection enables any document or file to be stored on disk in a coded form. Without knowing the password it becomes impossible to read the file and therefore prevents unauthorised access to disk files. The password can be upt to 16 characters in length and is case dependent, and therefore very difficult to crack.

Password Protection can also be applied to Wordcraft's data file manager to allow users who store information about others, e.g. for direct mailing, to comply with the requirements of the Data Protection Act.

With its own communications facility Wordcraft's users can transmit files between sites over the telephone system. These files can be password protected by Scrambled Data Transmission so that the transmitted data is unreadable by a line hacker or by any peson receiving the message who does not know the password.

This Scrambled Data Transmission facility allows confidential 'Managing Director's eyes only' messages to be transmitted by persons not authorised to access certain protected data files.

Lord Gigo

Red faces at London Airport computer set up when police rushed to the VIP lounge to arrest longtime fugitive, wanted for murder of his children's nanny, Lord Lucan. He was reported to be flying in, so Scotland Yard's heavies scurried to the scene to grab him. But (Shock! Horror!) the Lord they grabbed was not Lucan but Lucas, Government Minister for Trade and Industry! The computer (don't blame the computer! It's the information put into it! Ed.) had got the poor Lord's name wrong. Frightfully sorry, your Lordship!

Plus/4 Plus

Plus/4 owners are finally beginning to get the attention they've been demanding. After last month's report of a UK Plus/4 Club, now news of a Plus/4 Exchange in the U.S.

The Plus/4 Exchange Users Club offers a support network, a monthly newsletter, discounted software, peripherals and books. We've seen a copy of the newsletter and it's certainly full of useful information and ideas for Plus/4 owners.

Contact: Trimicro, P.O. Box 1130, Santa Ana, CA 92711. Tel: (714) 832-6719.

RPS bites into floppy market

Major inroads into the UK computer media market are being made by European floppy disk manufacturer, RPS.

A 100% first quarter year sales increase has been recorded and the company estimates in six months it will account for at least 12% of the floppy disk market previously dominated by American brands such as 3M and Dysan.

In just five years RPS has become Europe's second largest magnetic media manufacturer with over 20% of the total market. In the UK it has already captured 7% of the market estimated to be worth £150 million a year.

Key factor in the company's UK market growth has been the launch of the High Focus floppy disk range — a state-of-the-art disk with, it's claimed, a unique isotropic coating.

...news...news...news...news

Cray for the Chopp?

A new super computer has been announced that will challenge the present domination of Cray. The CHOPP (Columbia Homogenous Parallel Processor) has been developed at New York's Columbia University which has formed a company to market it. The present market for supercomputers is estimated at $500m a year but may grow to $1 billion by next year during which the CHOPP organisation hopes to sell five machines. They claim that it possesses a totally new architecture — a breakthrough in super computer design.

The CHOPP will be priced to compete with the CRAY at $10 million dollars. It will aim at the same market of oil, aerospace, automotive and weather forecasting.

Melbourne Goes C16

For the first time Melbourne House present a C16 compilation tape with *four* of their greatest hits.

These four greatest C16 hits will be packaged in a double library case and priced at a fantastic price of £7.95.

WIZARD AND PRINCESS is a multi-part graphic adventure divided into five levels, with each section requiring arcade skills and adventuring ability. The players task is to find the evil Wizard's castle, defeat the guardian dragons, negotiate the labryinth passages, rescue the Princess from the clutches of the Wizard and his monsters.

CLASSIC ADVENTURE is an up-to-date version of the classic Crowther and Woods game, Colossal Caves. The player will soon be immersed in an intriguing series of puzzles, requiring all the powers of a master adventurer to untangle them.

ROLLER KONG is a platform and ladders game. The players task is to rescue the maiden from her imprisonment before a deadly spider reaches her. The only way to get to her is by climbing ladders and moving along the platforms, but all the time it is necessary to avoid rolling barrels, fire bombs and spinks (deadly creatures) thrown at you by KONG.

DARK TOWER is a 27 screen arcade game. The player takes on the role of Prince Harry who has been turned into a mutant by the guardian of DARK TOWER. Your job is to collect all the jewels in the tower and return them to the Guardian. Only by doing this can you regain your freedom.

Commodore Announcement

Commodore are anxious for the public to be aware that Amiga product sold at prices significantly below Recommended Retail Price, (often with reduced specifications) will not be subject to the full support package offered by Commodore UK and its authorised dealers. In particular, Amigas offered for sale having been imported by non-authorised dealers from the USA or elsewhere, albeit with UK power supplies, are not guaranteed by Commodore UK, and are not guaranteed to run software or specialised hardware (in particular those interacting with video) developed for UK versions of the product.

We strongly advise that you ask your dealer to give details of the support package offered with your Amiga, and that it has full UK specification. If in doubt, or if you wish to ensure that your dealer is authorised by Commodore UK to sell Amigas, please contact Commodore on 0536 205555, and ask for the nearest authorised dealer in your area.

Users finding that their Amiga is not covered by the full UK support package will be able to purchase this from a Commodore authorised dealer, although upgrading to UK technical specifications is not available.

Commodore UK has the prime objective of ensuring that the UK purchaser is backed by total support from a strong and well organised dealer base. We also have a duty to ensure that product sold in the UK is suitable for this market and that the best interests of end users are served at all times. We shall do everything possible to continue to discharge that responsibility.

Commodore (UK) Limited.

GOODIES FROM ARIOLASOFT!

Fed up of Spot The Ball? Spot The Difference? or Spot The Dog?

Well try Spot The Screen Shot.

In every new Ariolasoft game from July 28th, there will be a Screen Shot Challenge card.

All you have to do is look closely at the card and use your skill to decide which Ariolasoft game the screen shot is taken from.

Get it right and you could win either a free game, a special Ariolasoft badge, or money-off tokens.

Get it wrong and you can still be a winner by entering the Grand Prize Draw, where you can walk away with your choice of any one of the following computers:
COMMODORE 128, SPECTRUM 128, AMSTRAD 6128, ATARI 130XE

Take up Ariolasoft's Screen Shot Challenge and get screening now!

Coming soon... from Martech

W.A.R.

Set in a Mechanical World which has been designed by engineers and built to a detailed specification, where huge rotating cylinders, linked as if they are part of a fantastic great chain, are inhabited by a vast civilisation. The inhabitants are innovative, imaginative and, unfortunately, warlike.

There religion is conquest, their latest victim is — Earth.

Already several missions have failed to deter the invaders. Long range attacks have discovered cylinders of this near perfect world protected by a deadly missile system, controlled by an intricate web of sensors. Patrolling individual cylinders; each of which is dedicated to a specific function, residential, military etc.; are DROIDANS — and they ask no questions!

C16 Fist

THE WAY OF THE EXPLODING FIST, the game which reached No. 1 on all the computer game charts, is, we hear, now available for the C16.

It has been carefully designed to realistically simulate all the moves found in the traditional age-old martial art of the Exploding Fist. In all the player can perform a variety of moves including blocking, ducking, jumping, kicking, feinting and somersaulting.

Set in a tournament situation playing against the computer or another player, your aim is to work yourself through ten levels which will make you a master of karate. But remember, as in the true Orient, the way to outwit your opponent is not always found in aggression.

C16 Way of the Exploding Fist is priced at £9.95.

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REVIEW

ART Studio

The OCP Art Studio from Rainbird is interesting from the moment you open the box. Inside is an optical device which decodes 2 letters on the TV screen to let you into the program. Once in, the program makes a copy which runs a printer to your specifications — thus the need for extra security.

This software won a lot of praise when it came out for the Spectrum, gaining the Best Utility Program of the Year Award for 1986. The 64/128 version is also outstanding within certain limits.

Most people producing pictures on the 64 use multi-colour mode. The lower resolution (160*200 pixels) is compensated by the ability to mix 4 colours in each 8*8 block of pixels. Hi-res mode (320*200) restricts you to two colours in each block so it becomes complicated to design a colourful hi-res screen. Rainbird has chosen to produce a program that only supports hi-res mode. However, if you want hi-res pictures then this is the program because everything is made easy.

It is WIMP (windows-icons-mouse-pointing device) driven and the style is very impressive. It will work with keyboard, joystick, trackball, mouse or koala pad, any of which move a pointer around the screen. At the top is a permanent narrow menu which lists command headings. Moving the pointer onto these headings pulls down a further menu for each, from which commands are given. This is a very neat system and beautifully designed. All the information you need is on screen when you need it, as text or icons.

You paint in 16 foreground or background colours with one of 40 paint styles. These include 16 different sized pens, 8 sprays and 16 user-defined brushes. The sprays are a joy to use. The pattern of dots they produce is random so the effect is that of an air brush. Oddly enough there is no single pixel pen. The brush pointer gives little indication of where the pixels will be drawn so I find I draw a rough shape and zoom in to adjust the drawing pixel by pixel.

The zoom is astonishing. You have a choice of *2, *4 or *8 magnification with optional grid. The magnified image takes up the whole screen but you can pan up, down and sideways to work on every part of the drawing.

Back in the main menu the shape commands control points and elastic lines, triangles, rectangles and circles. The circles can be drawn from centre or circumference, which is a useful addition.

Fill can be solid or one of 32 user-definable patterns — and it works very fast. Wash texture allows you to paint with a pattern. Calling wash will fill the most recently drawn object with a chosen texture, giving it instant depth.

The most powerful tool is the window. A window can be defined anywhere on the screen or even over the whole screen. Any pixels within the area can be rotated, flipped, inverted, cleared, enlarged or reduced, squashed or stretched. The window can be repeatedly cut and pasted, overwriting a previously drawn area or merging with it. An option exists to change all occurences of a colour within a window to another colour.

Text can be typed on the screen in 9 different sizes, reading horizontally or vertically. A powerful font editor allows you to design a whole character set with rotate, scroll, invert and flip. Alternatively the ROM character set can be called up or an entire set grabbed from any window. This is an extremely useful way to generate user-defined characters.

Fonts and pictures can be saved to disk or tape. The File command contains various disk utilities. The program can support up to 4 disk drives. The directory is displayed on screen and pictures can be saved, loaded separately or merged with an existing screen. Disks can be formatted, cleaned or wiped and files can be renamed or deleted.

Both Commodore bus and Epson compatible dot-matrix printer dumps are supported, in 5 sizes and in grey-scale. There is a choice of single or double density and dumps can be vertical or horizontal, with left, centre and right justification.

A lot of thought has gone into this piece of software. **Art Studio is simple to use, fast and powerful.** All in all I am very pleased with it but I do have three criticisms.

It helps if you can see where you are drawing. It should be possible for the brush pointer to be the shape of the brush it is using. After all, the data is already in the program. It would be nice to change colour and retain the pen, brush or shape you were using. Instead it requires seven joystick operations.

Finally, what I really want is a utility which is a 1st class hi-, medium- and lo-res designer, with the ability to grab characters and sprites from screen, and animate them. All these functions exist separately but not in one package.

Still, for £14.95 cassette or £17.95 disk the Art Studio is the best utility I have yet seen for producing hi-res graphics on the 64 and I have no doubt that I will be using hi-res more because of it.

Contact: Rainbird Software, 64/76 New Oxford Street, London WC1A 1EU.

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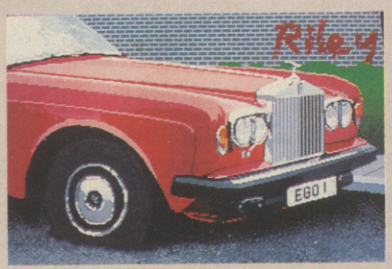

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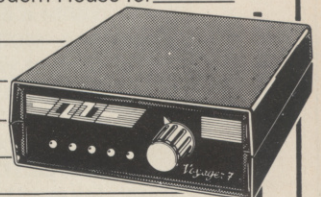

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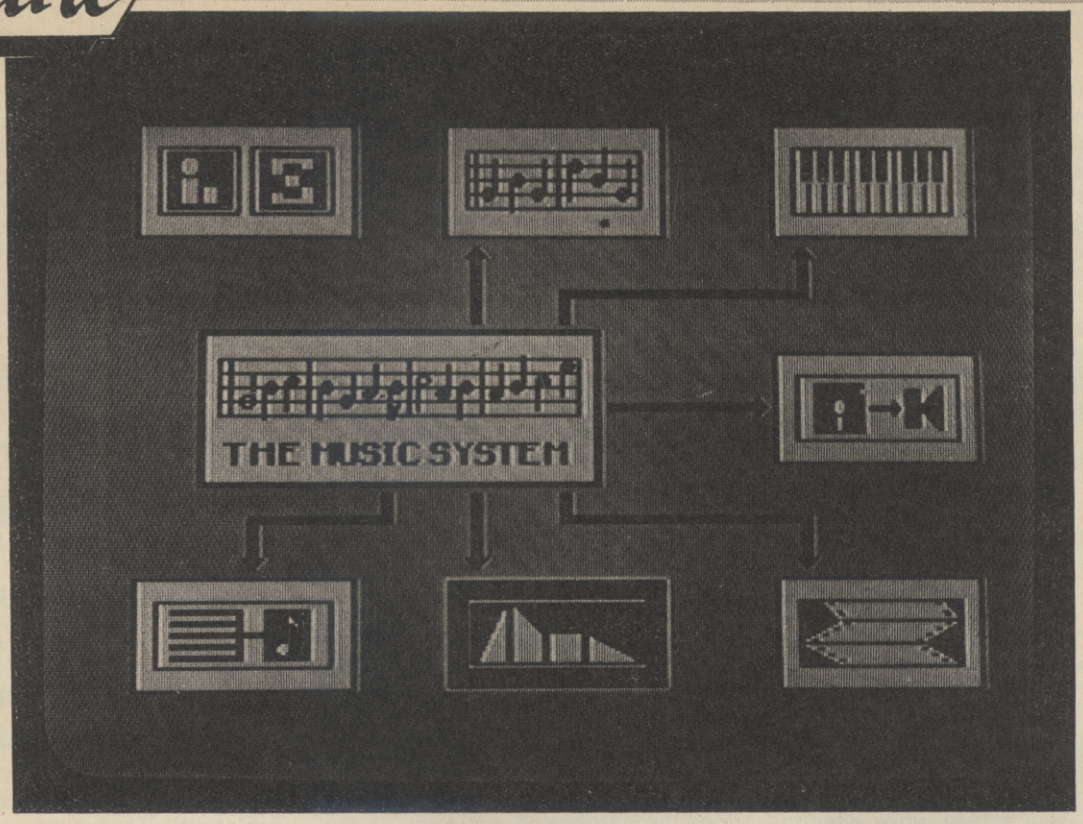


Ian Waugh examines the Pros and Icons of Rainbird's Advanced Music System for the Commodore 64

MUSIC SYSTEM

A version of The Music System for the BBC computer was released in 1984 and was heralded by many as THE music program for the Beeb. Not only did it offer music input in traditional form (ie. staves and crotchets and quavers) but it was controlled by icon-driven pull-down menus. Such state-of-the-art programming on an 8-bit machine was truly revolutionary.

Now this *is* relevant to the Commodore version because it, too, uses icons and pull-down menus. More than that, the programmers expanded the program to take advantage of SID's extra facilities and features and they added an extra section — a MIDI module.

The AMS (as the Advanced Music System is known) consists of six main sections: the Editor in which you compose and arrange music on a stave; the keyboard which turns the Qwerty keys into a multi-track recorder; the Synthesiser which lets you program SID; the Linker which lets you chain together music files; the Printer which prints out your compositions and the MIDI module which can link the system to a MIDI synthesiser.

The AMS is protected by the Lenslock system which requires a bit of squinting and is altogether a nuisance but if it helps cut down software piracy...

The main screen shows icons representing the six modules each of which is highlighted in turn by pressing the Space Bar. To enter a module you press RETURN. Because of the sheer number of functions — six modules and well over 100 operations — control of the AMS could have been unwieldy but, where possible, the same keys are used to perform the same sort of function. For example, the Q and W keys change values, SPACE selects options and RETURN confirms the selection.

Each module has another common feature: the Command Line which sits at the top of the screen. It activates four pop-up menus: Files, Values, Commands and Info. Although the content varies from module to module, the information is of a similar type. Files is self-explanatory. Values shows changeable information such as active voice, octave and volume. Commands contain the operations you can perform within that module such as delete track, set markers, accent music and check barlines. Info displays information which can not be altered such as the files in use, free memory space and the size of individual voices.

The Editor is where you enter notes on a stave. You can insert accidentals including double sharps and flats and enter triplets. Barlines can be set automatically and you can insert repeat barlines, too. Only one voice is shown on screen at a time and you flick from voice to voice at the press of a key.

Using Macros you can carry out operations on a marked section of music. You can transpose it, alter pitch or volume or give each note the same envelope. You can save a marked section to the notepad, a separate memory area, which can be saved and loaded allowing you to transfer notes between voices.

(Cont.)

You can also define loop sections, for example a rhythmn track, which will repeat continually while a non-looping voice plays.

This has just skimmed the surface and the manual thoughtfully has a quick start section to ease you into the program.

The keyboard module works along similar lines to a multi-track tape recorder. Notes are entered monophonically, one voice at a time on the QWERTY keys. Music files can be loaded into the Editor for further manipulation although they may look rather messy. A Block Tidy facility in the Editor, however, converts all single rests to notes and ties them to the previous note so this can help.

SID may be a brilliant sound chip but if you think all that PEEKing and POKEing is a good way to go slowly mad, look at the Synthesiser module. It has lots of graphics displays to help you understand ADSR envelopes and filters and a quick guide to creating sounds should get you started quite painlessly.

You can play a tune while altering SID's parameters to get an instant appraisal of the new sounds you are creating.

A rather super extra is the inclusion of two non-SID envelopes which can be used to modulate the pulse width and filter frequency of the voices. Normally one of SID's voices would be used to do this but now you can sound all three voices at once — with modulation, too.

Envelopes you create are saved as sound files and can be loaded into the Editor and Keyboard modules. Each note can then be assigned one of 15 envelopes.

The Linker lets you chain together several files into one composition. Up to 26 files can be used and arranged in a sequence containing up to 99 items and the whole saved as a separate file.

If you want a hard copy of your Masterwork for posterity — or just to impress your friends — the Printer module will do it. You can enter lyrics beneath the music, too.

Six printers are supported: Epson FX-B0, RX-80, MX-80 F/T, Star Delta 10, CBM MPS 801 and 802. If you use a printer interface, it can also send output to the User Port or the Serial Port.

The MIDI Module lets you plug into a real synthesiser and play your compositions through it. You can also use the synth as opposed to the QUERTY keys to enter notes in the Keyboard module.

A separate hardware interface is required and the program supports the Passport, Siel and JMS interfaces although the latter two are no longer made but may be still available from music shops.

This module is effectively a six-track real-time sequencer. Muic files can be converted into MIDI files to be played through a synth and vice versa but obviously you end up with a three note arrangement for SID.

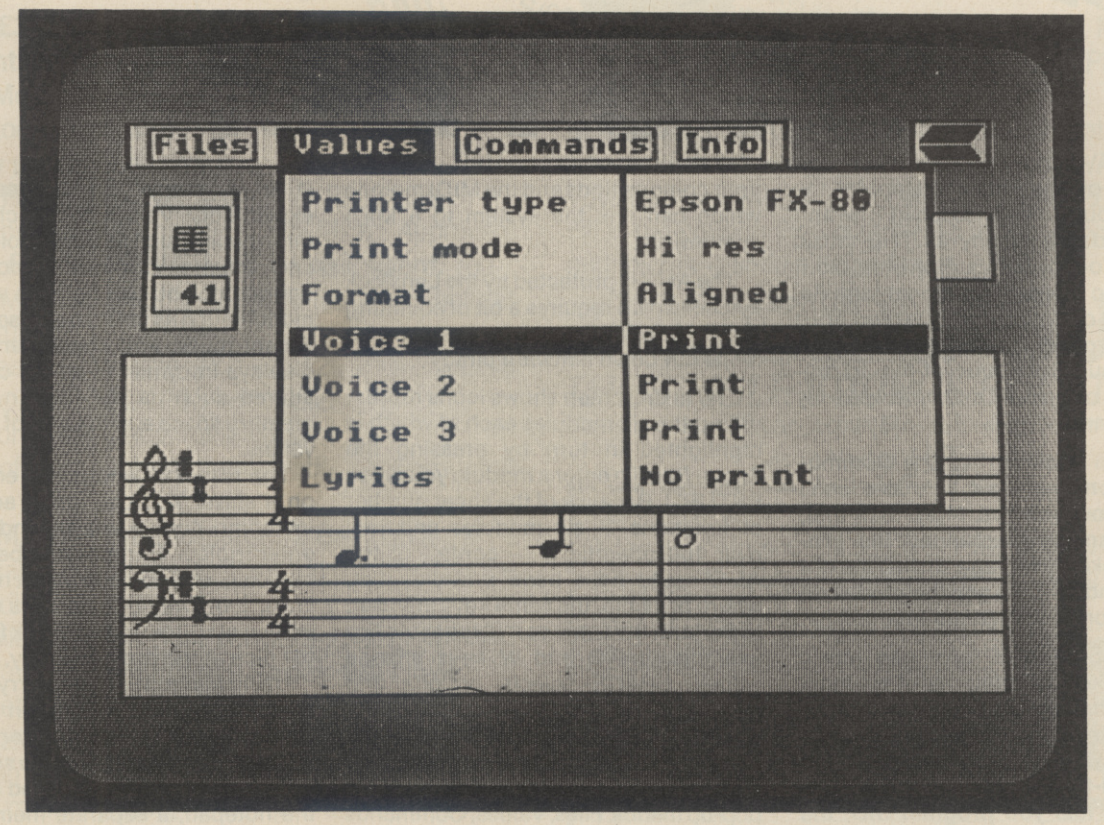
It doesn't stand up to comparison with dedicated MIDI software (and there is so much now available) but it is an interesting extra.

The manual is a model of computer software manuals with lots of diagrams and a good index. The disc contains music files on both sides — you flip it over.

The Music System can be used as a tool to experiment with compositions and arrangements and, to date, **it is the definite music program for the Commodore. Well may they call it THE Music System.**

The AMS contains all the modules described above and retails at £39.95 and is available only on disc. A smaller version, the TMS, containing only the Editor, Keyboard and Synthesiser modules is available for £17.95 on disc and £14.95 on cassette.

Further information from Rainbird Software.



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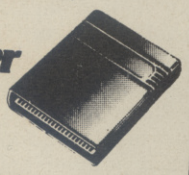

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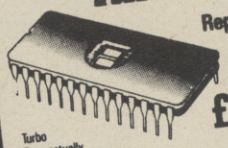

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COMPENDIUM

You may be forgiven for thinking, that it is a bit late in the day for another music program to be launched on an already crowded market. But Colleen Music Compendium is a compendium in the true sense of the word and contains no less than eight programs, and so can be given a warm welcome. Most can be controlled from the keyboard or with a joystick but nearly all require some form of keyboard input as well.

Side 1 contains a Music Tutorial, a SID Chip Tutorial and a Guitar Tutorial. On the main menu screen is an attractive picture of a cottage nestling among hills and greenery. A rather super illustration of the goodies to come can be heard as SID plays a clever country hoodown dance until you make a selection. The Music Theory Programs cover the Stave, Treble and Base Cleff, note and rest values, ledger lines, bar lines, repeats, time signatures, ties, pick-up notes and accidentals. All features are illustrated graphically where relevant.

This package would not make you a Menuhin or a Music Master over night but it certainly is a lot more fun than working through a book on the subject. To be a complete Music Tutorial, however, it would need to cover more than just the basics and some sort of test section would be required too. But it will get you going and probably lead you on to a deeper study of music.

The Guitar Tutorial shows you the finger positions for all major, minor, and 7th and minor 7th chords and plays the chords too, so that you can hear the sort of noise you're supposed to be making. It also has a tuning facility so that you can tune your guitar to SID although perhaps putting SID in tune with your guitar would be a better idea!

Only one set of finger positions per chord is shown - generally the most common - and although the layout of the program limits the choice of chords to those mentioned above, the addition of a few others would have made for a more complete tutorial. For example, diminished chords of which there are only 3, and augmented chords, of which there are only 4, are quite common. Major and Major 7th would have been welcome, but if you are just learning perhaps 4 chord types are more than enough to start with.

The SID Chip Tutorial tells you how to program SID in Basic. If you're not the dedicated musician or programmer the thought of all those registers can be very off putting. The tutorial covers Volume, Envelopes, Pitch, Wave Forms, Ring Modulation, Sync and Filter. Example programs are listed and suitable sound effects are heard, where relevant.

Like the other Tutorial Programs, this is far more fun than reading from a book. It is a fine introduction, far better than User Guides but if you are really serious about programming SID you need a book too. *See Commodore 64 Music by Jan Wafe — Ed!)

Side 2 of the disc contains Playablong, Drum Machine and The Creator.

Playalong produces a one or two beat rhythm accompaniment rather like the auto — accompaniment features found on portable keyboards. You can choose from 4 styles: Boogie, Country, Disco and Waltz — the Disco and Country Rhythm in particular are very good. You can select any major or minor key and alter this during play. Great fun! The chords can be selected from the computer with a joystick or with a Music Maker Keyboard.

I would like to have seen more types of rhythm lasting for more than just one or two bars and a facility to program a chord sequence would have made it even better. I do not believe you can have too much of a good thing.

The Drum Machine permits cursor control only — just as I was getting the hang of the joystick too. You can create up to 40 bars using Base, Snare and Hihat. You then arrange them into a pattern by specifying the order in which they are to play. You can order up to 999 bars in this way which makes for quite a large composition.

The Drum Sounds can be edited slightly but they do leave something individually to be desired. You can't hear what each bar sounds like; the only way to hear a bar is to put it in a pattern. You can load and save bars and patterns but you can't catalogue the disc.

The Creator is undoubtedly the biggie. It lets you create music using all of SID's parameters and then it compresses it and saves it as a machine code file. This can be loaded and run, interrupt driven, from your own programs. There are no royalties or fees to pay so this could be your chance to make some money, and enjoy your own creative talents.

This program only works with a joystick and notes are entered by selecting the required pitch from a 6-Octave Keyboard at the top of the screen.

The note duration can take any value. The most common ones can be selected with the joystick but there is provision for user value to be used, too.

Wave forms range from the usual triangle, sawtooth, pulse and noise ring modulated and synced waves. The pulse width can be varied, vibrate adjusted. The ADSR altered and the filter programmed. These can be altered for each note — apart from global parameters such as the filter — **the range of sound and noises you can produce is almost limitless.**

You can edit a voice by stepping through each note and the values of most of the parameters are shown as each note plays.

The ASDR values are not shown which is something of a miss but you are told that an envelope change taken place. Notes can be altered, inserted or detailed.

After creating your masterpiece a special routine compresses the data and saves it. Each note uses only two bytes of memory and a change of envelopes uses 4 bytes so the process is quite efficient.

The combiner lets you store up to 3 times in memory at once. The process is fully automatic and there is not much to say about it.

THE FINAL PROGRAM

The final program produces sound effects like the programs produced with the creator. These are interupt driven and you can use them while your creator music is playing — with the temporary loss of voice 3.

As music is such an important part of games programs, these routines will allow anyone unfamiliar with machine code too produce professional quality music. You need to do your homework before hand, of course, but it is a lot easier to use than an adventure generator — less frustrating and more fun. It is not quite instant Ron Hubbard but it is the nearest thing yet.

Colleen Music Compendium contains something for everyone although I suspect those who know a little about music will have no use for the tutorial programs.

£49.95, for such is the cost of the package, is after all, a lot of money. Perhaps Colleen would benefit by selling the two sets of programs separately.

If the idea of a music package appeals to you then I can certainly recommend this one to you. You'll find it really good fun.

Ian Waugh

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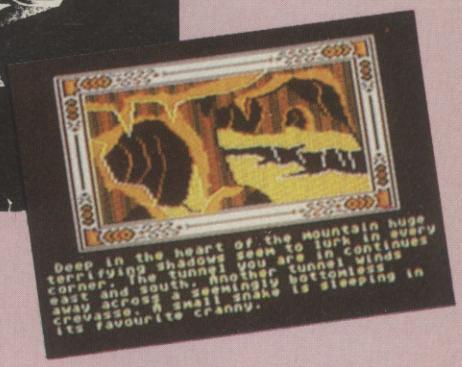

Is one picture worth a thousand words? Adventurers are often divided. Some love illustrations, others, the purists, stick only to text. Graphic Adventure seems inevitably to increase. And for those who like to design them, there are very few packages to help out. There is now a new one — GAC. Julian Rosen examines it.

Before GAC came The Quill which met with incredible success. Although quite old, The Quill is still being widely used, and there is even a section on Compunet, the 64 network, devoted to Quill'd adventures.

Being newer, and having the advantage of hindsight, Incentive have managed to produce a product that is both powerful and relatively easy to use Unlike the Quill, GAC has the built-ir facility to include graphics with the room description via a quite powerfu graphics editor that even allows you tc set up simple animation sequences. You can have about 25 good quality pictures in an average sized adventure.

Writing a GAC adventure is rather like writing a program. GAC has its own language with which you design the game. Don't start groaning; it really is simple to use, and is very straight-forward in its syntax. Just as an example, a single-location 'game' could be written in about 20 seconds. First you press 'R' for Room. Then '1' for room number 1. Then you type in the room description, 'A mouldy Cave'. Hit '←' to retun to the menu, and then 'F1' to start your newly-finished game.

The words 'A mouldy Cave' will appear, followed by a user-definable prompt, which in this case is the default 'What now?' As you can see, it is very easy to set up locations. Implementing puzzles is another matter.

For puzzles, you have to set up conditions. Let's imagine a scenario. Room one will have an exit to the south, to a Bazaar. At the Bazaar, you'll be able topick up a Magic Oracle. On going north, carrying the Oracle will enable you to go through a secret door which will appear to the West. Firstly you'll have to set up an object called 'A Magic Oracle'. Then

you'll have to define a few local conditions for room one. If carrying the Oracle, then give message 'A secret door appears to the West'. Have I given that message before? If yes, then display 'There is a secret door to the West'. Then allow movement to room three to the West, 'The Wizard's Chamber'. If you can think logically, then writing an adventure using GAC is a simple, if slow process. Don't however embark on a large project before having written down all the locations, the descriptions, and their associated puzzles.

There is a pre-defined file containing the most used verbs and nouns which is pretty comprehensive. Undoubtedly you will want to add your own through, and this is very easy to do. You just type in the new verb in a list displayed with the 'v' command. By using the programming language, you can then test for verb #x whenever you want to. Adverbs and nouns work in a similar manner.

Messages can be displayed at any point in the adventure, and of course are user-definable like the rest of GAC's features. Up to 255 messages may appear at any one point in your adventure. These messages are called up by number from the lines of GAC codes that you've programmed.

There are three types of conditions: Local, low priority, and high priority. To illustrate this, here are three lines of GAC codes.

Assuming that market one is a light/dark pointer, then: IF (VERB 3) RESE 1 GOT 2 WAIT END would, if you typed EAST (verb 3 is East) rest the light/dark pointer, goto room 2, and wait for a new command. This is a local condition.

IF (VERB 20) MESS 249 PRIN CTR 0 MESS 250 PRIN TURN MESS 255 WAIT END would, if you entered Score (verb 20) print message 249, print your score, print message 250, print the number of moves you'd made, and then finally print message 255 and wait for a new command.

IF (RES ? 6) SET 6 STR 111 3 CSET 1 ENd checks to see if marker 6 is reset (if this is the first move). It then set marker 6 to say that this isn't the first move any more, and set the strength and counter to hold value 3.

As you can see, writing GAC may take a while to get used to but is essentially very simple once you get the hang of it.

This is a really great product, and I'm sure that Level 9 might want to take a look at it. It is professionally programmed although I think the documentation is a little sparse. After a few days practice you'll be able to roll of adventures easily, as long as you've designed them first on paper of course!

Very highly recommended.

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Speech

by Superior Software

Here's another software speech package this time from Superior Software. Speech was first launched on the BBC micro in December '85 amidst much acclaim, because nothing quite like it had ever been seen before for the beeb.

On the 64 however, there have been several software speech packages out now for some time. Software Automatic Mouth (S.A.M.) was the first and came out in very early days. Automata Software also produced a package that wasn't quite as good and Cheeteh had a popular one.

Speech is a 9k program that produces speech (or a distant cousin...) without the aid of extra hardware. It utilises only the built-in sound capabilities of the 64. By using the SAY command you can make it say straightforward English sentences. It automatically translates your text into the 49 phonemes that make up the English language, and passes them through its own parser to produce the speech.

Speech can easily be used in your own programs, simply by using the SAY command. Pitch can be altered with the PITCH command, enabling you to add inflection to the speech pretty easily. You can switch the display of with the OFF command which improves the quality of the speech quite considerably.

This is a pretty niffty little program that could have quite a variety of uses. It might be an idea for adventure writers to include it in their adventures, as the text to speech facility would take about 10 minutes to implement by a competent programmer. And I'm sure there are loads of other uses too. I am surprised that more people don't know about and use this kind of package. Speech is so easy and fun to use that I'm sure it will achieve greater success than other packages I tried. It certainly deserves too. **Highly recommended for anyone in sound. Interested.**

Price: £9 9.95c £11.95d
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		Vowel Sounds					
AY	pale	PAYL		OW	coat	KOWT	
AE	black	BLAEK		O	cot	KOT	
AA	car	KAAR		UX	coot	KUXT	
AI	fair	FAIR		OY	voice	VOYS	
				AW	now	NAW	
EE	meet	MEET		AO	door	DAOR	
EH	get	GEHT		OH	won	WOHN	
ER	perk	PERK					
				UW	you	YUW	
IY	site	SIYT		/U	put	P/UT	quiet "u"
IX	sit	SIXT	short "i"	UH	wood	WUHD	
IH	sit!	SIHT	long "i"	AH	up	AHP	
		Consonants					
B	bat	BAET		N	nap	NAEP	
D	dab	DAEB		P	pat	PAET	
F	fat	FAET		R	rat	RAET	
G	gap	GAEP		S	sat	SAET	
/H	hat	/HAET		T	tap	TAEP	
J	jab	JAEB		V	vat	VAET	
K	cat	KAET		W	wag	WAEG	
L	lag	LAEG		Y	yap	YAEP	
M	mat	MAET		Z	zap	ZAEP	
		Special Sounds					
CH	chair	CHAIR		CT	fact	FAECT	
DH	this	DHIXS		DR	dragon	DRAEG/UN	
SH	share	SHAIR		DUX	duke	DUXK	
TH	thick	THIHK		NX	sing	SIHNX	
ZH	azure	AEZHAOR		TR	track	TRAEK	

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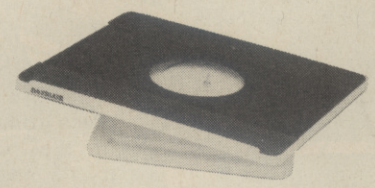

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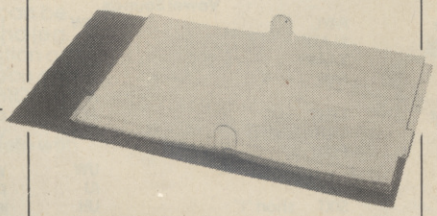

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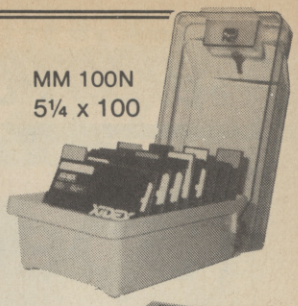

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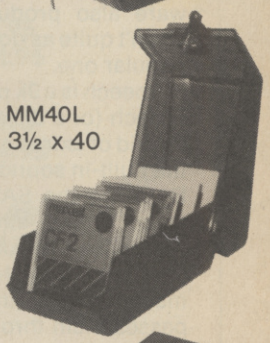

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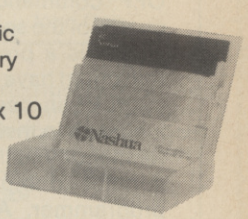

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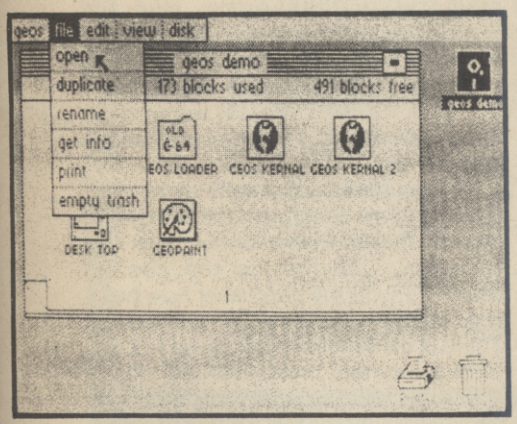
Feature

GEOS - WRITE

by Berkeley Softworks

Geos-Write is one of the bundled software packages that comes included on the GEOS system disk. The manual describes it as a 'sophisticated and powerful word processor', but although it does have some very advanced features, it lacks quite a few that could very easily have been implemented.

G-Write is booted up in the normal manner from the desktop, by clicking on the icon twice in quick succession. The program is then booted up fairly quickly, and you are asked whether you wish to quit, create a new document, or edit an existing one. Should you choose to edit an existing document, then a pop-up window appears with a list of files available. Highlight one by clicking on it, click on the OK box, and the file is promptly loaded in. Well, maybe not promptly, but then the 1541 isn't exactly renowned for its speed.



Once you have selected either new or existing document, G-Write places you in edit mode. From here onwards, the real user-friendliness of Geos, as with most graphic operating systems, becomes apparent. Instead of having to remember which key activates what command, you simply select a heading, such as STYLE, from the menu bar at the top of the screen. This brings down the style menu, from which you can select the style of your current font, such as underline, or bold. Note that more than one style can be combined, to provide underlined bold outlined text for example!

Not only can you select font style, but also the font itself. You have a choice from the FONT menu of your normal, boot up front, California, Cory, Dwinelle, Roma, and University. You can use all of these fonts in one document, and as long as you have a suitable printer, your document will be printed out just as it appears on the screen; fonts, styles, the lot.

You can also choose the size of your chosen font. The range of sizes depends on the font, but it could be anywhere from 8 to 24 pixels in size, and all text is proportionally spaced. Unfortunately, if you are using one of the more complex fonts in a large size, text entry and scrolling is painfully slow. This is because it is a scrolling in hi-res mode, and not character by character as other wp's do.

G-Write

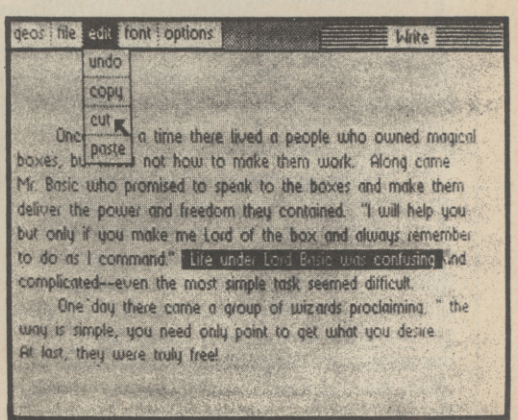
From G-Write, you can select one of six menus from the menu bar at the top of the screen. The Geos menu gives you a choice of desktop accessories such as the alarm clock. File allows you to recover, open, close files etc. Edit brings up a menu allowing you to cut and paste areas of text. Fonts and Styles I have already described.

To the right of the menu bar is the page indicator, which displays the current page number, and can also be used to point the viewing window to a different portion of the document. Next to the page indicator are the scroll arrows which allow you to scroll a page up or down, depending on the arrow you click on. The title bar, next to the scrolls arrows, shows the name of the current file being edited.

Below the menu bar is the ruler, and just underneath the ruler are the tab and margin markers. These can be set, using the ruler to find the position you need. Left and right margins, and eight tab independent tab stops can be defined.

One of the more advanced features of G-Write allows you to merge hi-res pictures from Geo-Paint, the accompanying graphic program. You simply load in the picture, position the cursor where you would like the picture to start, and select Paste in the Edit menu. Then select Photo from the resulting submenu, and the picture will appear, centred left-to-right. Luckily, the authors have realised that scrolling a document with a hi-res picture stuck in the middle is dreadfully slow, and they have provided the program with an option to hide pictures until print out. After Hide has been selected, the pictures are not shown on the screen, but are still held in memory. Space is reserved for them in the document, and when you come to printing out the document, the pictures are printed along with it. The Photo Manager desk accessory comes in very useful here. It lets you cut and copy graphics from any of the photo albums on the disk, to paste into G-Write documents, especially useful if you have a number of graphics to include.

The ability to select different fonts with different sizes, being able to type in different styles, and the ability to merge hi-res graphics into G-Write are very useful if preparing reports. Graphs can be incorporated, and text can be highlighted, or underlined etc. However, as I mentioned before, G-Write lacks several fundamental features that are commonly found on most wp's. There is no word count, facility, and the editing facilities are not tremendous, unfortunately. Although there is no mention of a spelling checker, I suppose that by using a desk accessory one could be written and included at a later date, as could many missing features. G-Write is ideal for the home, and for preparing reports, because of the graphic merge facilities and its ease of use, but as a serious word processor, it is not really adequate. Funnily enough, when the Atari ST was first released with its new GEM based word processor, First Word, it too lacked many common features, and a new version, much more powerful is being written. Lets hope that the authors of G-Write decide to re-write their wp, because despite my criticisms, it has a lot of potential and is nice to use. If G-Write is an indication of the power that GEOS makes available, then we could be set to see a whole host of new, sophisticated, serious, and powerful packages appearing on the now old 64. Geos, together with the repackaged 64C, could give the machine a whole new lease of life, and bring it a step higher towards serious users.



Julian Rosen

Product Update

Script Plus

16 plus/4

I find it no surprise that word processing continues to be a popular means of occupying the time of a home micro — one only has to look at the success of Messrs Amstrad. The current range of word processor programs for the PLUS/4 are pretty thin on the ground so it was a pleasant opportunity to try out and review a word processor for my own PLUS/4 when SCRIPT PLUS turned up on my doorstep recently. Exactly why word processing should be so popular was succinctly expressed in a recent conversation I had exploring this point. We are, according to one view rapidly becoming a nation of illegible scribblers and that the art of handwriting is dying.

I must admit that I now find it relatively unthinkable to pen a letter by hand. Perhaps in my case it is because my printer represents the heaviest financial outlay on hardware or alternatively, I simply enjoy writing and word processing allows me to marshal and compile, record and edit my thoughts more efficiently than by hand.

I need hardly remind readers that the PLUS/4 did not represent originally a runaway commercial success. Most of the blame has been attributed to the price but the much vaunted '3 PLUS 1' software did little to mollify purchasers. Although Commodore attempted to redress the balance by bringing out operable software they seemed reluctant to tell us about it. SCRIPT PLUS was one of these packages and it has now been relaunched by PARASOFT a subsidary company of the originators, Precision Software Ltd.

Forty column display is not the best way to see exactly what the printer will produce. Looking at it another way, forty column display does allow a clearer format to the user, I am thinking here of children and those of us who could find reading eighty columns difficult. The programmers of word processors for the PLUS/4 have attempted two methods of circumventing this problem. One is to allow the user to type in text as it comes, then through the judicious use of format symbols embedded in the text the program will display using a separate screen from the main or text screen what the printer should output onto paper. This view screen cannot display the eighty columns of the printer so it operates on a sideways and downwards scroll.

On the C64 the familiar EASYSCRIPT works on this technique. The second method is a slight variation on the first. The user types the text and when the edge of the forty column screen is reached the whole screen scrolls in time with the text entry speed. In effect the user is already in the view printer screen mode and although the programmer is to be congratulated for this ingenious effort at overcoming the PLUS/4's display limitations, you have to contend with scrolling sidewards to see the start of the current sentence. The method is usually termed the 'what-you-see-is-what-you-get' (WYSIWYG) approach.

The SCRIPT PLUS package contains the 150 page User Manual and a cartridge. The documentation in the form of the User Manual is written to a extremely high standard. The manual is in two parts, the first being a series of tutorials on how to use SCRIPT PLUS, the second being a reference section. It also contains a number of appendices and an index. Also included are details of converting disk sequential files from other word processors, in particular EASYSCRIPT and EASYSPELL. This is a point well worth noting — the file portability facility particularly if you decided to change at a later date to, for example the C128.

The program after loading from the ROM presents a menu screen with options for the screen width, storage device and printer type. SCRIPT PLUS supports the use of dual drives such as the 4040 provided an IEEE interface is used — it does not support separate units i.e. it can only operate with one disk drive. The mode of operation is based on that of EASYSCRIPT with heavy use made of the function keys. The central control for SCRIPT PLUS is the conveniently placed ESCAPE key which places the user immediately into command mode but pressing the RUN/STOP key fulfills this function. There are 4 screens of help available immediately from the HELP key which make learning SCRIPT PLUS very fast.

The text format commands appear on screen as reverse video characters, which in a lot of instances are very similar to those used by EASYSCRIPT, although SCRIPT PLUS does wordwrap in forty columns. This avoids the scrolling window technique with the words chopped in half by the edge of the screen which can create difficulties in reading the text.

For the experienced user of word processors the range of text formatting with SCRIPT PLUS are very good. Constructed on sound EASYSCRIPT foundations, it has features such as view/-print alternate pages, selective headings and footings, detailed file handling and merging, columns and number tables, calculations on numeric data within a document. A new feature to exploit the PLUS/4 includes a separate text area allowing the user TWO documents in memory simultaneously. Had the PLUS/4 project been completely implemented by Commodore and the operating system included the speech facility, then SCRIPT PLUS would take advantage of this — it contains a speech command!

Complaints? None really since they must be more directed at the shortcomings of the hardware rather than this software. Considering the cost of SCRIPT PLUS the purchaser now has a very usable tool for word processing. There is no direct support given to Centronics printers from SCRIPT PLUS although interfaces are available on the market to cater for this if you run a non-Commodore printer. RS-232 and Commodore serial printers are those which will operate immediately with SCRIPT PLUS.

If you are the really adventurous type you can remove the ROM's from the cartridge board and use them to replace the abysmal '3 PLUS 1' software ROM's inside the PLUS/4 itself. I did this myself with my own PLUS/4 with complete success — obviously you need some experience with hardware to carry this through. The benefits of this give the user immediate access to a word processor from the function keys and provide a free cartridge port for another application such as a spreadsheet ROM.

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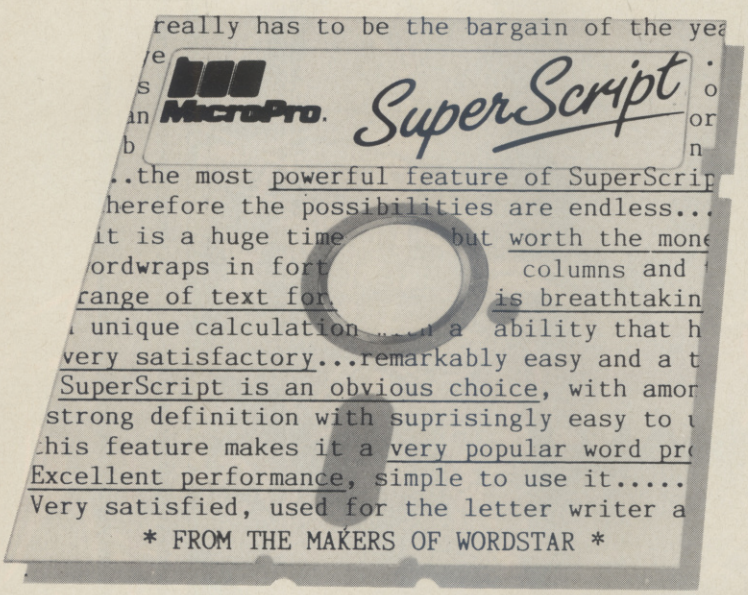

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Felix Says..... Well well well! Who said I'd never last! Here I am again and if you promise not to tell, I've got some tales for you!!

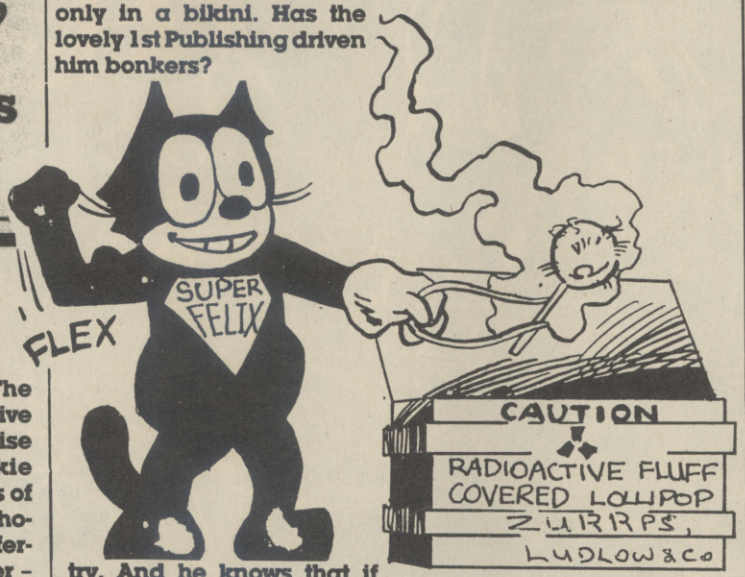
Felix Redivivus

As someone said, 'The Queen is dead. Long live the Queen' Felix (otherwise ex bank clerk Frankie Kafka) is no more (sighs of relief!). He is metamorphosised (get the classic reference now?). He is bigger – now 1 metre tall! Better (he can spell 'immediately') and knowledgeable (he knows everything about everyone. Yes, Sara and Pauline G, Pat and Amada B! And Jane C! He knows *all* your birthmarks). He also know who is the Joan Collins of the software industry. And he knows that if Birmingham (Alabama) gets the next Olympic Games it will be because US Gold lives there. So watch out world, here he comes – is it a bullet or is it a man – no, it's Super Felix! You, stop pulling that paper over your head! He knows who you are! And why!

FELIX SAYS....

Kiss me, Kate

My editor has been standing anxiously at the gate of CCI waiting for a delivery of a certain product from 1st Publishing. He refuses to move. It seems that the famous Sara Galbraith (otherwise known as the Pangbourne Peach) has appointed a gorgeous new Marketing Manager, Kate McGibbon, Miss Ayrshire 1985 no less. My romantic editor has somehow got it into his head that 1st Publishing's new star is going to deliver him their product on roller skates and clad only in a bikini. Has the lovely 1st Publishing driven him bonkers?



Scandal

I thought you'd like a bit of internal (geddit?) CCI scandal. Max (no relation!) who is second in command of our million-strong ad sales force (they work from a villa in Monte Carlo with an answering machine that just says 'Sorry, no space left') has been seen wearing tee shirt form Pattaya. Our expert on the Orient, Sharon Wong, tells us that it is Bangkok-on-the-Sea, a sort of sleezy Costa Brava/Coney Island where there's no-one but tired businessmen and 12-year-old Thai girls. Max won't say who gave it to him (he hasn't left Monte Carlo in years) but Grey Ham Baldock, internationally famed artistic genius from Oysterville, Essex, was known to have examined the beaches there for specimens. What would Oysterville beauty queen True Blue Janet say about this link between the Grey Ham, Max and Ad (or is that odd?) and 12-year-old Thai masseuses? Come on Jan, let's here the swear words!

More Spitting!

(Yuk! What a headline, Ed!) Oh Domark! Do you like trouble or do you just have two left feet? Can it really be true you've withdrawn your 'Spitting Images' game because of legal action? And are you really going to change its name to 'Split Personalities?' And are you offering full refunds for anyone in the universe who has ever heard the words 'Spitting' or 'Images'? If so, please send my lawyers a small cheque for £19 million or 5 million forints, whichever is worth more (what the hell is a florint?) for the promises I made to hold my breath till 'Splitting Images', sorry, 'Personalities' came out.

Cheapo Time

With Mastertronic crying all the way to the bank as stock market billionaiers and US Gold's Americanas bubbling away, the cheapo ranges are red hot. The latest is one from Elite. They're going to release one a week for the next ten years or maybe 3 months. At the announcement we got very tired and emotional at the idea — and the cheap £50 a bottle vintage champagne. And do we hear that Elite is now bosom pals with Alligata after they threatened legal action over Alligata's alleged 'Bombo' rip-off of Elite's 'Bombjack'. Shall I say that again or will there be legal action? Hic!

Psst! Wanna buy a software house?

Longtime software merchant Automata is not selling anymore software, but has because of financial problems put itself up for sale. Christian Penfold once known as the Pie Man, why, I can't say, blames advertising or rather lack of advertising success for Automata's downfall. He says his last ad in an unknown magazine called Computer Gamer (is this another figment of your sick imagination?–Ed.) did not produce a single reply! Perhaps he should have tried C.G.'s sister mag 'The Winemaker'.

MARC PEIRSON AND FRANCIS LEE, BOTH FROM THE BACK-OF-BEYOND, POSE FOR INTERNATIONAL KARATE FOR UNDER C16'S. PHOTO BY PAULINE (ENDURANCE) LARSDEN. (OR ARE THEY ARGUING ABOUT THE BILLIONS THEY'RE MAKING FROM VARIOUS TRIVIAL PURSUITS?

Show me the way to go home!

We sent a spy to the Amstrad Show dressed as a cube of Sugar! We thought he might be rumbled, but no, everyone else was so square there that no-one noticed! He told us that on the second dayt it was so empty that stall holders – sorry, stand owners – were trying to sell each other things like radio aerials. On the first day apparently nobody under 61 was allowed in. Someone also told him that Amstrad disks are not being made in large quantities and are now so expensive that you pay £399.00 for a disk and get a computer free. But who wants an Amstrad even if it's free, Sugarbaby?

Going up the Walls

We've heard, in fact everybody's been shouting it at us very confidentially that a certain Mr Right, erstwhile active in Activision has been given the job of selling lollipops for a certain desperate publishing organisation. He promised to give us the fluffy lowdown himself, but his efficient new organisation couldn't find our phone number. What *we* find most odd is the name given to the company – Thanatos, which our editor, a world-famous expert in Greek (grovel, grovel) tell us is a word for death. How very strange . . . can Mr Right have struck the wrong note? Or does he want to teach his grandmother to suck poison lollipops?

Jane loves Max

Jane Smyth, marketing Empress of Argus, is denying that her association with the fuzz is confined to parking tickets. Confirmation of this heated denial – it was a hot day – comes from a picture of her in a bobby's helmet and what appears to be an abbreviated uniform. Jane, who used to be a nun, is teetotal and normally known for her straitlaced view of life, also denies that she has fallen heavily for a certain Max Bedroom (no relation!). Can I hear wedding bells. Or is it all a load of Policeman's Balls, Janey Waney?

No more hack and slay day, Maggie

Lovely Level Nine's Margaret Austin is whispered to be talking of giving the coup de grace to the hack and slay adventures with 'Knight Orc' – the follow up in their 'Jewels of Darkness' trilogy. We hear that the end of the year will see this slasher of a game cutting down the opposition to size! We love Level Nine generally and we specially love the luscious Margaret, even though we hear she's emotionally involved with a spotty faced nit called A. Mole. And what about their new 'The Porn'? It's rumoured to outdo Sam Fox (no relation!).

Big Kick

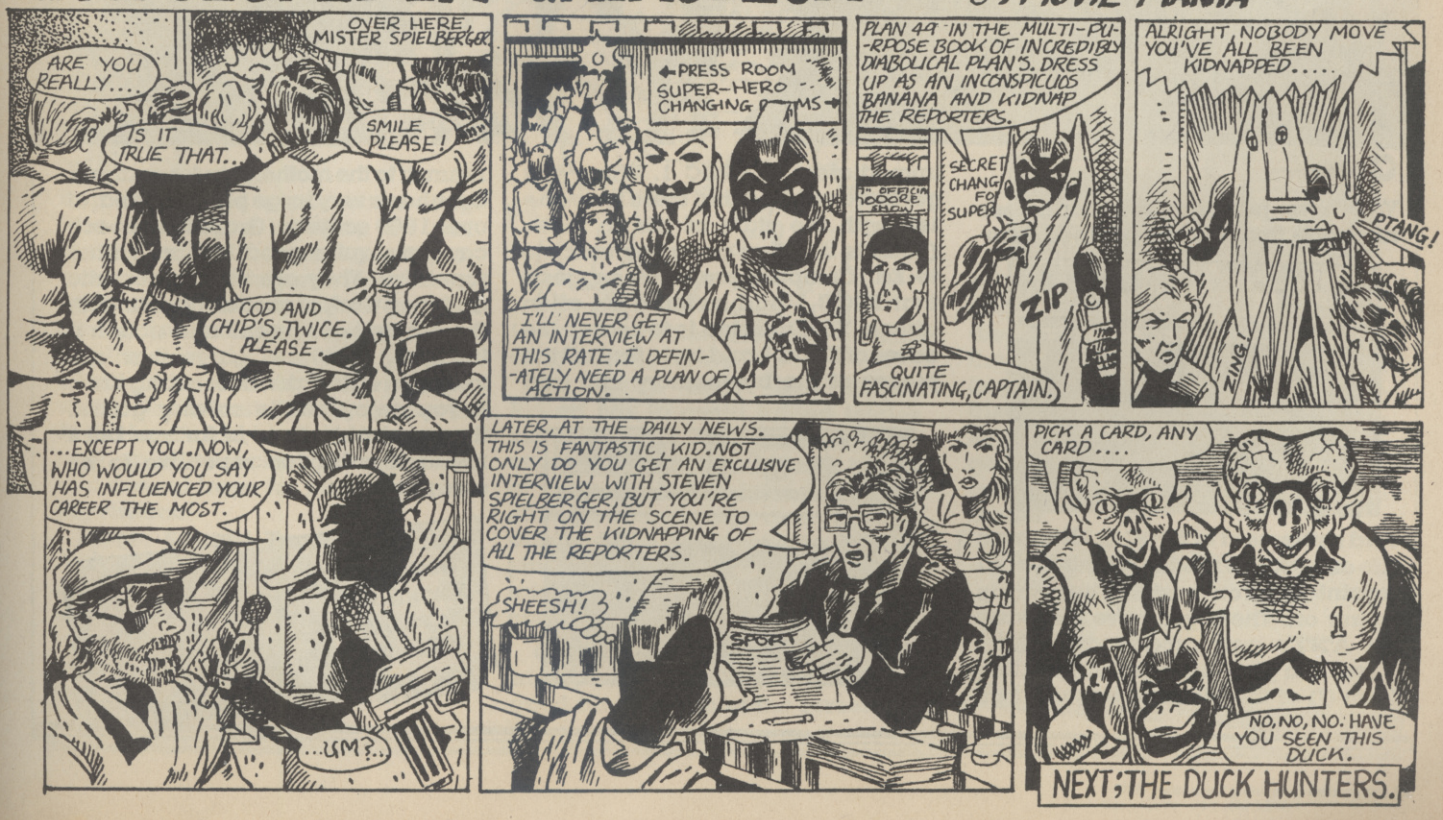
Our correspondent at the CES Chicago Show told us the System 3's International Karate got the prize for the best action game. It appears the judges read CCI's 'Awesome' rating and didn't bother even to consider anything else. There's fame for you. Good on you too, System 3½.

Byeeeeeee ee! from the world's most famous cat, FELIX!

GRAVE NEWS (Sob!)

Alas, poor Frances,
We knew you well.
Too well for your own good.
Ah, how we miss the crunch of disks you've strewn the floor.
Nor does your skateboard crash the door.
Where are you fables of hospitals, marathon phone calls, direct line to the Winemaker, Ludlow, the Kremlin?
Just when you were amounting to something, JFK, you assassinated yourself.
As they say in Spanish, What a shame.
(signed) S. Felix (aged 3½)

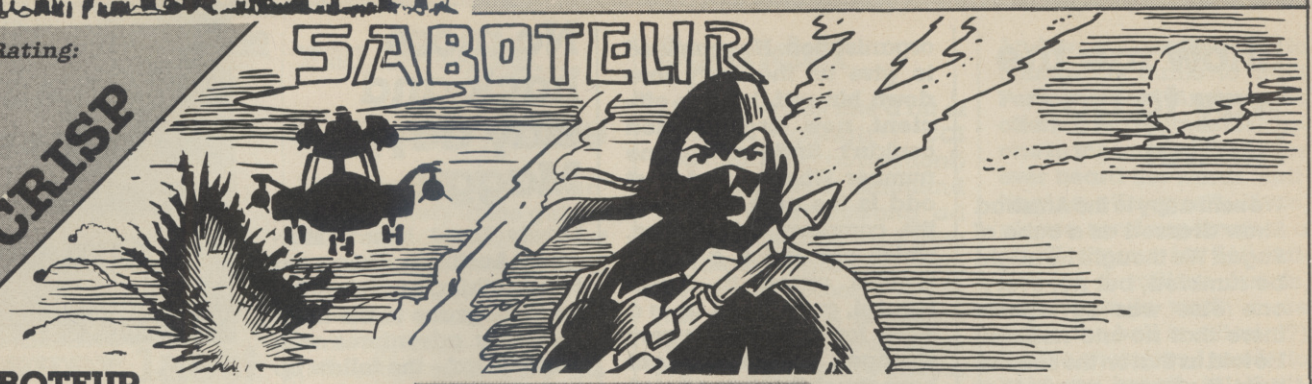
ENCYCLOPEDIA GALACTICA 3; MOVIE MANIA



MEGA REVIEW

CCI Rating:

CRISP

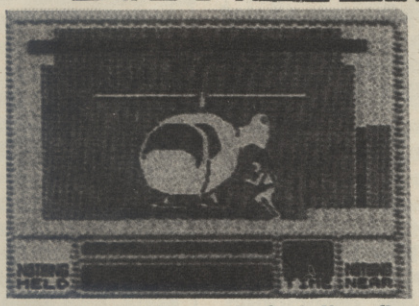


SABOTEUR

Here's another Spectrum conversion, and as with most conversions, doesn't really try to take advantage of the 64's facilities.

You've been hired to steal a data disk that contains the names of all the rebel leaders in the country (where we ask?), and you have to get it before its information is transmitted to all the outlying security posts. You've also only got a limited time in which to make your escape.

As you've been trained in the martial arts, you should have no problems getting passed guard dogs, armed guards and the like, if it weren't for the numbers of them. This is an exceedingly difficult game!



You start at the end of a jetty, after climbing out of your rubber dinghy. Then you have to avoid dogs, guards and automatic weapons guided by wall-mounted cameras. Some doors are locked, but you can use the computer terminals that are strewn about to open them.

Once you've successfully obtained the disk, and blown up the computer centre with a time bomb picked up along the way, you've got a journey upwards to the roof where a helicopter is waiting to whisk you away to safety.

A sort of game, with rather few sound effects and difficult to play. Quite fun, though, because of its challenge and the skill needed to complete it.

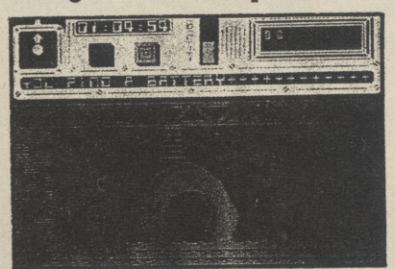
Price: £9.95
Graphics: ★★★
Sound: ★★
Playability: ★★★
CCI Rating: CRISP

CCI Rating

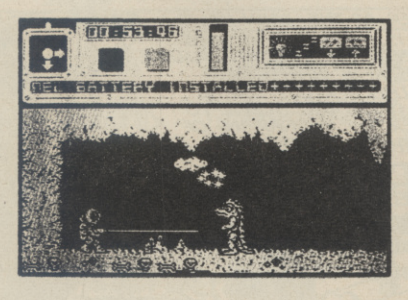
IFFY

Core

You have just received a distress message from the deep mined Aste-



roid settlement of EROC 1. All human life as we know it is threatened (what again!-Ed). You must find out what is going on. There you have the basis for A'N'F's new arcade adventure, Core. You play Andrew Angello, the hero (!) of the plot and you must go immediately to EROC 1. When you get there you find that there is no one left with the state of life in them. (Sounds like that party you took me to-Ed.) Computer prognosis suggests that EROC 1 had suffered an alien attack. Your mission is to search the caves of EROC 1 and try to find all the pieces of the bio-memory unit and



return it to the mothership for analysis. Core has a very large playing area, of over 1000 screens. Graphics of each cave are quite good but are rather repetitive. They are monochromatic and they work reasonably well. With the amount of screens and action it involves, Core is a game that can keep you entertained for a long time. If you enjoy puzzle solving games then probably Core is for you but I found it a bit too repetitive to be enjoyable.

Price: £9.95
Graphics: ★★★
Sound: ★★
Playability: ★★
CCI Rating: Iffy

CRISP

SAMANTHA FOX STRIP POKER

You've seen her on page 3, you've seen her in the record charts, now see the large and lovely Samantha Fox on your 64! Martech have struck up another superstar tie-in deal. Sexy Sam has challenged you to a game of five card draw poker and she's pretty confident that you will not beat her. She has seductively promised to remove items of her clothing if you begin to beat her, but if she wins

back again, tough! She can put it all on again.

When the game has loaded you're presented with a credit screen and a smart Entertainer tune is played. When you begin the game, Sam is pictured wearing a hat, scarf & glasses. The computer will shuffle

and deal both players five cards. Unlike the specey version, you can only see your own cards. You can then bet on your cards. After this you and Sam can change any cards that you don't want. You may put back any or all of your five cards to try to gain a better hand. Changing the cards is called the draw and it is done when one players calls. Next follows rounds of betting on your five cards until someone calls again, the winning hand is then determined. When you have reduced Sam's cash the digitised picture will change, there are five in all. All the pictures are very good indeed. When you have finally beaten Sam and the final picture appears a wolf-whistle is heard and 'The Stripper' tune is played.

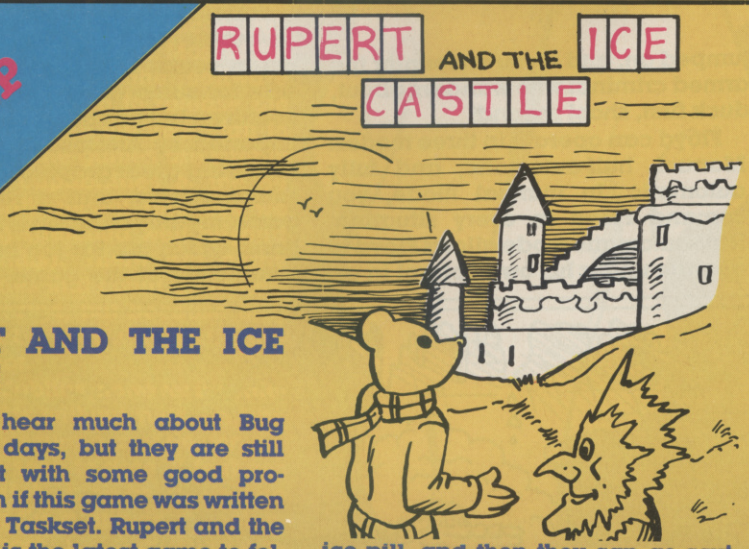
Strip Poker is a very good bit of programming by Martech and as you can use either joystick or keys it is very easy to play. Even if you know nothing about poker you will soon learn and maybe become quite good. I did. The sound and graphics are of first class quality and it does justice to both Sam Fox and Martech. The game is very playable and all your options are there in front of you and you just use the joystick to highlight the desired one. Another difference to the Specey version is that you can choose how much you raise the pot by. (05,10,15 or 20 credits). Overall we found it very enjoyable and well worth buying.

Okay so this is a game that could be accused of sexism, even exploitation but Sam is no slouch at exploiting her charms, too. And there could be a lot worse than a computer game.

Price: £9.95 (c) £14.95 (d)
Graphics: ★ ★ ★ ★
Sound: ★ ★ ★ ★ ★
Playability: ★ ★ ★ ★
CCI Rating: CRISP

CRISP

RUPERT AND THE ICE CASTLE

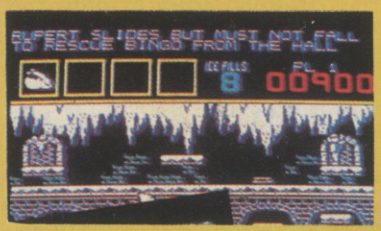


You don't hear much about Bug Byte these days, but they are still coming out with some good programs, even if this game was written for them by Taskset. Rupert and the Ice Castles is the latest game to follow the adventures of the intrepid Bear and his friends, this time on a visit to Jack Frost. Unfortunately, in Jack's Ice Castle, his sister Jenny has been up to her tricks again, and has laid several traps for the unsuspecting visitors.

Bingo, Edward Trunk, Algy, and Badger Bill have all been frozen by Jenny whilst they were visiting Jack, and Rupert, armed with some magic ice pills which will revive his friends, must find them in the Castle. Once he's found them, he gives them an ice pill, and then they can go scuttling back to Nutwood.

But things aren't that simple. Rupert has to avoid falling icicles, slippery skates, Jack-in-a-boxes, and snowmen. Each time he is hit by one of these, he has to take an ice pill himself, and when he runs out of ice pills, he too becomes frozen, and joins his friends! Level three contains some warm clothes that Rupert can pick up to help keep warm.

Graphically, the game's good. It is also pretty playable, and is quite good fun. The top of the screen displays a little rhyme, such as 'Rupert slides but must not fall (reference to the ice slides) to rescue Bingo from the Hall.' Underneath this are four boxes that display the picture of the friends you have rescued, and beneath this is the actual play field. A good game, though I think the programers might have made it a little harder.



Price: £2.99
Graphics: ★ ★ ★
Sound: ★ ★ ★
Playability: ★ ★ ★
CCI Rating: CRISP

MEGAREVIEW

CCI Rating

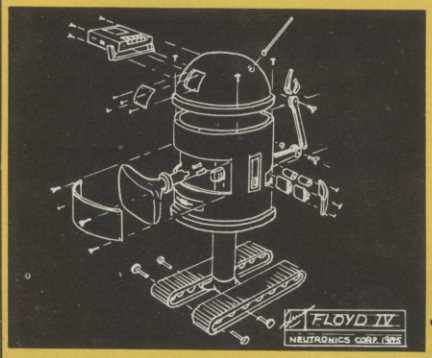
AWESOME

"THE WORLDS FIRST COMPUTER ASSISTED COMPUTER GAME."

FLOYD THE DROID

Floyd is an IPDR-Icon Driven Programmable Robot who's job it is to repair and clean the sewers and waste disposal systems of some of the world's largest cities. Yuk! However, quite appropriately, the game starts in London, which in reality does need a sewage overhaul that would cost millions to complete. Floyd you're really needed!

In this chores, Floyd comes across a few nasties that block his way. Rats, bats, alligators (I always did wonder what happened to all those baby alligagors that got flushed down the loo when their owners tired of them) and hoodlums confront our IPDR. You have to device programs that will enable him to deal with these yucky beasts. You also have to plan the most efficient route through the sewers for Floyd to take, or you'll overshoot the time limit and be down in the sewers yourself!



To program him with these procedures, you select the procedure menu. This presents you with a list of options in the form of icons (the whole game revolves around them) which you change to tell Floyd how to meet certain situations, like bats or other nasties. This new procedure can then be tested, and if it works, entered into memory and saved. Bats can only be killed with a laser beam. Rats and alligators have to be jumped on, and if you encounter the armed criminal who wanders about, duck first, shoot second!

Floyd can operate in three modes: Manual, half-automatic, and fully automatic. In manual mode, you comand Floyd in every situation. Half-automatic mode allows Floyd to operate under his own control in an encounter, once you have told him what procedure to use. In full automatic mode, Floyde will automatically select the correct procedure instantly, and carry it out without prompting. Before this is done however, you have to program the procedures into Floyd.

For anyone, and that include CCI, who has been complaining of the sameness of so many hyped up games, this has got to be seen as one of the most original games to come out in years. It has in fact been on sale for some time in a number of countres, but has only recently been imported by Ariolasoft into the UK. Featuring great graphics, very lively sound effects, and a really good game, my only criticism is the instructions, which are far too brief for the complexity of the game. Definitely deserves a high place in the charts. It may not sound like a great idea (sewers?-Ed.) but it certainly will glue you to your 64.

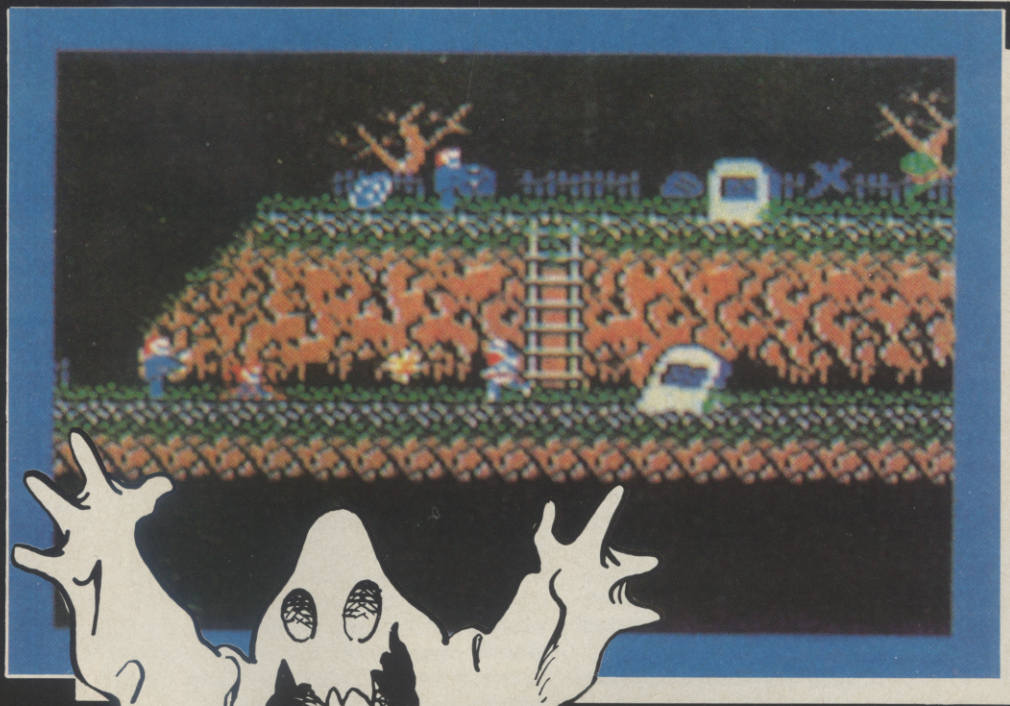
Price: £9.95
Graphics: ★★★★★
Sound: ★★★★
Playability: ★★★★
CCI Rating: AWESOME

MEGAREVIEW

CCI Rating

AWESOME

GHOSTS 'N GOBLINS



Ghosts 'n Goblins

The 'in' thing as far as computer games go has always been arcade conversions. Some are successful, some are dismal failures. Most of the flops are because the software houses, in their rush to release the 'hyped up game of the year', fail to realise that some games are simply beyond the capabilities of the 64 (although with recent releases we see it being stretched well beyond previous limits). There are many arcade games that could quite easily be converted, but because they lack astounding, mind-blowing graphics, are not.

Ghosts 'n Goblins, however is something else. It is, without question, one of the most accurate arcade conversions I have seen to date. It features the same catchy tune as the arcade version, and the graphics are astonishingly almost indistinguishable as the money swallower. The original arcade game is one of my favourites, despite the fact that it lacks those 'astounding, mind-blowing' graphics that seem to be a necessity these days.

G 'n G is totally addictive. Its great, catchy little soundtrack, nice detailed graphics, bright colours, and fast moving action won't let you leave your 64. You'll forget food, drink and even sex! (Are you kidding? From what I hear CCI readers never forget sex!–Ed.) Some G 'n G moves must be timed to split second, so there really is a lot of skill needed to get anywhere. In fact, I was almost driven to desperation in my attempts to get past a rather vicious winged beastie that blocks the path to the second section of the game.

When you're running through the game, you have to avoid contact with the various undead persons wandering around the district (a graveyard to start with). If you get touched by one of them, you lose your armour the first time, and your life the second! Other nasties to contend with include fireball spitting serpents, witches, giants and some rather weired looking flying objects that could be wraiths . . . Altogether not the sort of company you'd choose to meet anywhere but on screen!

Ghosts 'n Goblins is an outstandingly magnetic game. Once you play, you'll be hooked forever! It is one of those compulsive 'one more go' games that are infuriatingly difficult, but only cause you to become even more determined to succeed in reaching the next section. This game should be a chart-buster. Awesome and then some!

Price: £9.95
Graphics: ★★★★
Sound: ★★★★
Playability: ★★★★★
CCI Rating: AWESOME

MEGA REVIEW

CCI Rating

CRISP

TRAP BY ALLIGATA

Tony Crowther has been absent from the games scene for some time now. He has in fact re-joined Alligata to write a shoot 'em up that he himself describes as the game he has always wanted to write; 'a fast testing arcade game that is utterly addictive.' Having liked all of Tony's previous games and admired their technical qualities and perfection I was really looking forward to playing his latest game, Trap.

Unfortunately, it did not altogether live up to my expectations. I expected a Crowther game to be really addictive, but found it, although challenging, to be ultimately more run of the mill in both quality and game-play.

In a distant corner of the galaxy, the human race struggles for survival. A once peaceful ally has turned aggressive, and you must decide whether 'mindless destruction and violent aggression' is justified in the name of peace. This is the 'Trap' that you are in.

You must defend your planet against these once peaceful allies and demostrate your reactions and skills of a legendary space-fighter. You face three tests.

In test one, your manoeuvreability and reflexes are tested to the full, dodging meteors and enemy fighters. In test two, you must demonstrate your courage and intelligence. In both one and two, all the aliens must be destroyed, otherwise you will not be able to continue to test three.

Test three puts you on foot, and the better you battle, the more hardened the battle becomes.

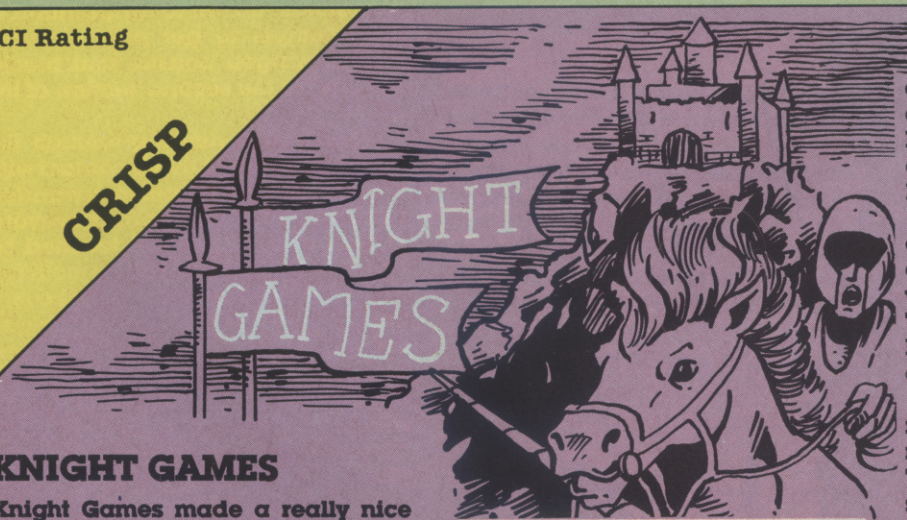
Trap looks great on the package. On the screen however it isn't totally special. I wouldn't place it as one of the very top Crowther productions but nevertheless *the game's still great fun to play.*

ALLIGATA BITES BACK

Price: £9.95 tape or disk
Graphics: ★★★
Sound: ★★★
Playability: ★★★
CCI Rating: CRISP

CCI Rating

CRISP



KNIGHT GAMES

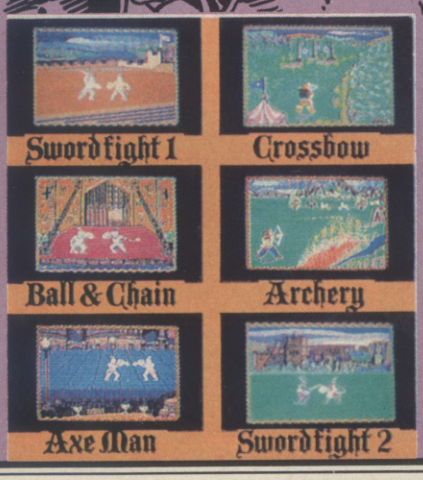
Knight Games made a really nice change from all of those ninja and martial arts games that are being turned out at a rate of knots. Unlike most of these though, this is a good game! If I had to make a criticism, it would be that each event has to be loaded in from tape. None of them is stored ready for use when the program first loads, and I just can't believe they didn't have enough memory! Still, quite a quick tape-turbo has been incorporated, so the wait is pretty short and painless.

The object of each event is to win as many roses and shields off your opponent as possible within the chosen time limit. It is a pity that each game is totally self-contained. Effectively you have eight games on one cassette, because they do not link up, or pass on scores.

There are eight events, four on side one, and four on side two. First on the agenda is Sword Fight, in which, yes, you do battle with another knight. There is another event called Sword Fight 2, but I don't really see what the difference is.

In Crossbow you have to shoot moving targets, taking into account some rather exaggerated hand wobble. The other five games are Quarterstaff, Ball & Chain, Archery, Pike Staff, and Axe Man.

There's also some pretty good music, and the sound effects are OK. Not a bad game at all, and at least they've come up with an original setting for a combat game! Have at ye, varlet! Damned be he who first calls enough! (Are you all right?–Ed.)



Price: £8.95 cassette £12.95 disk
Graphics: ★★★
Sound: ★★★
Playability: ★★★
CCI Rating: CRISP

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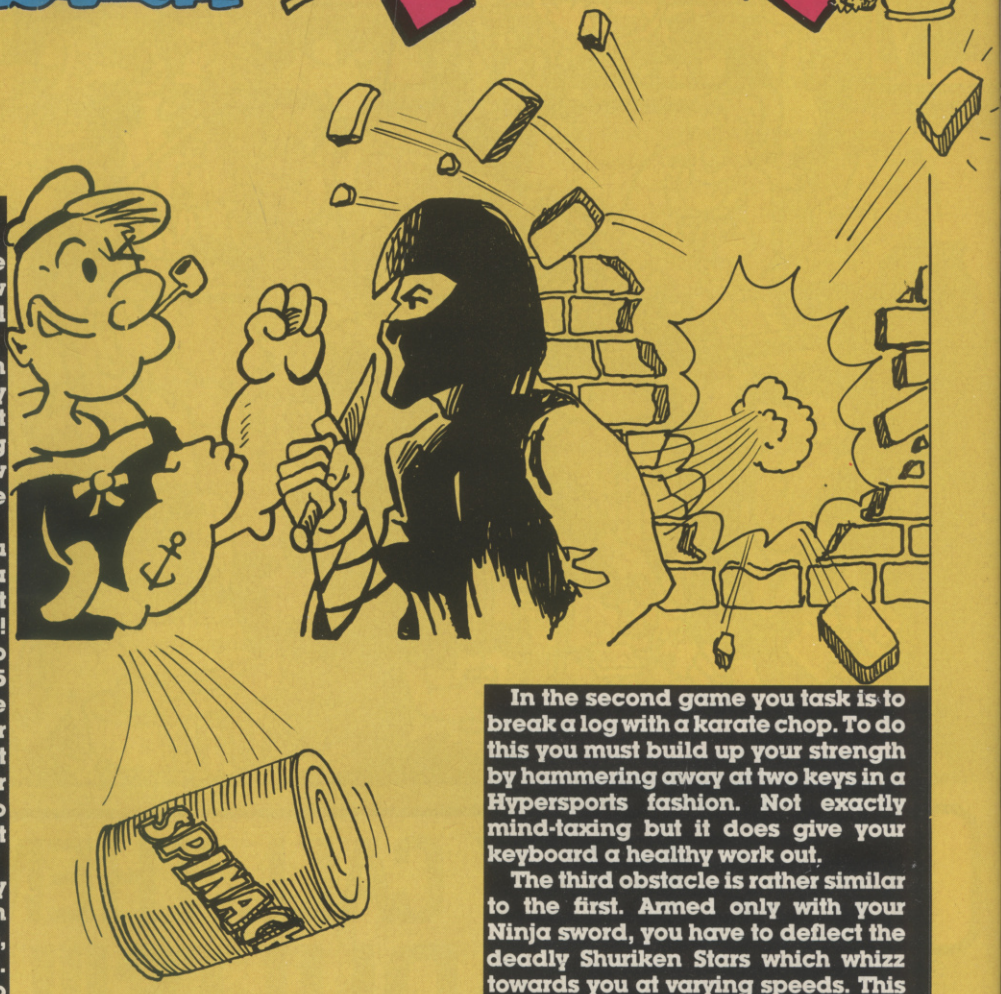
MEGA REVIEW

IFFY DODGY

NINJA MASTER vs POPEYE



POPEYE

This isn't a conversion of the arcade game of the same name, but a new idea incorporating the ever-loyal sailor, Popeye.

The program was originally written for the Speccy and retains a Speccy 'feel' and 'look' to it, and doesn't really suit the 64. It's interesting to note that all the quotes saying how wonderful the game is come from the Spectrum version reviewers.

To hold on to Olive Oyl's love, you have to keep her supplied with a never-ending supply of love. (Do not move a a comment, dear Ed. Please! You know we all love you deeply!) To do this, you'll need to collect 25 hearts that are scattered all over the playfield. Olive has a loveometer which has to be kept topped up. If it starts to fade you'll have to deliver some of the hearts you've collected to her, or that's it for you! (I kid you not that's what it's about.)

There are a few things in your way though. You'll need the key to open the door, the coin for the fruit machine, and at some point, fire a cannon. Take a trip on a passing space ship too . . .

These are passive obstacles. There's also Bluto, birds, witches, dragons, and sharks to contend with. If you've got the spinach you can revive yourself though.

To get around the complex, there's a handy selection of stairs, ropes, and ladders. As well as climbing up and down these, you can move in and out of doorways which helps to avoid those nasty beasties. If you cross Bluto, he'll knock you out cold!

This might have been a really good game about a year ago, but I'm afraid that with the standards that have been set now, it is only barely above mediocre.

Price: £6.95
Graphics: ★★★
Sound: ★★
Playability: ★★★
CCI Rating: Iffy

Ninja Master by Firebird

Firebird are the latest in a long line of software houses to provide a martial arts combat game. 'In the ancient realms and provinces of the land of the Rising Sun lived a breed of warriors – feared by all and who feared no one'. Yes, you've guessed it – its a Ninja Game! Bruce Lee where are you now that we need you?

In NM, you are a fairly new Ninja who sees his chance to impress the elders at the annual games, which have just come around. The games are split into four sections, each of which you must complete to attain the next grade. (Haven't I heard this somewhere before?–Ed.)

Game one has you warding off arrows that come at you from either side. You must defend yourself with your bare hands, accompanied by what I can only think is the digitised sound of a ninjitsu cry (highly realistic stuff . . . though I haven't heard a lot of Ninjas cry recently).

In the second game you task is to break a log with a karate chop. To do this you must build up your strength by hammering away at two keys in a Hypersports fashion. Not exactly mind-taxing but it does give your keyboard a healthy work out.

The third obstacle is rather similar to the first. Armed only with your Ninja sword, you have to deflect the deadly Shuriken Stars which whizz towards you at varying speeds. This is the only one of the four games that I actually felt was challenging, as it relied on quick reactions, and a beady eye. (You've certainly got that! It's the other eye I don't care for!–Ed.)

The final test is to shoot down flying canisters with a blowpipe. I don't know whether the blowpipe is the approved 'canister shooter' in the Land of the Rising Sun, but if it is, my respect for the Ninja is not as great as it was.

Ninja Master is placed by Firebird in the Silver Range, and sells for £1.99. Although neither graphically stunning, nor thrilling in game play, it is cheap, and will provide a few hours entertainment. Ultimately though, it becomes very boring and monotonous. Except maybe to a Ninja.

Price: £1.99
Graphics: ★★★
Sound: ★★
Playability: ★★
Rating: Dodgy

MEGA REVIEW

CCI Rating:

CRISP

ACTION PACK II (COMPILATION)

Action Pack II is a compilation tape containing four very good games. At only £4-99 this is a package not to be missed. The four games are; Z, Eagle Empire, Tales of the Cat and Knockout.

Z on first sight is not unlike Uridium or the arcade machine 'Starforce' but once into the game the plot is slightly different. You are the pilot of a spaceship and you start by flying over some space station type terrain. You must destroy fleets of aliens that have been sent your way. Once you've destroyed ten of the fleet you get confronted by an energy unit. If you shoot the energy unit and collect it you will get an energy bomb added to your inventory. You will need these bombs to exit from the screen. Once you have collected a few bombs you can then try to penetrate the force field that is surrounding the transporter unit. Once you've made a large enough hole you can enter and you get transported to another level. There are four levels in all. The graphics for Z are detailed and colourful and the scrolling is the height of smoothness. Z is also very fast so it doesn't get boring. It's a very good version of the shoot 'em up theme.

Fight your way through four exhilerating levels to destroy finally the master alien is your task in the Eagle Empire. I've been looking for a really good copy of the arcade game Phoenix and I think this must be it! The four levels and end bonus screen are virtually the same as the real thing only maybe just a fraction slower. When you've penetrated the four levels you get to have a bash at the bonus screen. This is where the evil master alien sits in his nasty little spaceship and you must attempt to blast him out of it. Eagle Empire is very easy to play although it does get harder the further you progress. Graphically simple but very effective. Sound is mainly spot effects but they are used to good effect. This was my favourite game on Action Pack 2.

Have you ever wondered how a cat uses it's nine lives? Well you'll certainly find out in Tales of the Cat. You must guide your feline friend home through the delapadated back streets. There are fifteen screens progressing in difficulty. Each screen contains a road with some cars travelling far too fast on it, a big black dog and you may even meet the occasional breakdancer! Watch out!

To complete each screen you must collect an object, which is normally situated in the middle of the road. Graphics of both the characters and the backdrops are quite chunky and not very pretty to stare at for too long. I didn't really like Tales of the Cat as there is not much variety and I got bored quite quickly. But that's me. I've got a low (or is it high?) boredom threshold.

If you're into a dose of brain damage or fancy a headache then you'll certainly receive one with Knockout. This is not the best boxing simulation that I have ever played but the title page is impressive with a rotating 'Knockout' symbol. The game, however, is not quite so good. Your view of the ring is from the side and Alligata have managed to make it work quite well. You can create your own boxer using various steps and punches. The graphics of the boxers are a bit lumpy and primitive but if you wanna become the next Rocky you'd better get in there sparing. So get him, champ!

Price: £4.99

Overall Rating for Action Pack 2
CRISP

MEGA REVIEW

CRISP

FANTASTIC FOUR

Fantastic Four is the third adventure in the Questprobe series by Scott Adams. As with all Questprobe adventures, you have been set a task by the Chief Examiner which you must complete to survive. Buying a Questprobe adventure is always a bit risky, because you don't know what the task before you is until you are told by the Chief Examiner after booting up the game.

In this Questprobe, you have to rescue Alicia masters from the evil Doctor Doom. To do this, you have to master the powers of two super heros; The Thing and The Human Torch. You can switch between the two by typing CHANGE VIEW in which case your control changes to the other character. The Thing starts off stuck in a tar pit, and Torch on the land beside the pit. Unfortunately, switching views can crash the game, so I wouldn't do it too often!

All American ADVENTURES

The graphics are quite nice, and don't constantly load off disk which helps speed the game up a little. It would seem to be written in basic, because the speed really is awful. There is nothing worse when playing an adventure than having to hang around waiting to input your next command whilst the machine sorts itself out.

The instructions include a list of all words the adventure understands, and a list of the characters in the game, their powers, and personal information, which is vital to solving the game. Also included is quite a long section on how to play an adventure, and what it is, something that more publishers could do with including.

A good adventure, with quite a challenge. Despite being slow, it is well thought out, and two characters having to be controlled, makes a refreshing deviation from the standard adventure route.

Price: £9.95 (c) £14.95 (d)
Graphics: ★ ★ ★
Sound: n/a
Playability: ★ ★ ★
CCI Rating: CRISP

NAFF

THE SNOW QUEEN

The Snow Queen is the computer version of Hans Christian Andersen's story of the same name. The story itself may have received world wide acclaim and be remembered forever, but I doubt very much that the game will be.

To give you an idea of the story, the publishers, Mosaic, have included an abridged version with the instructions. This makes good reading, unlike the game itself. Mosaic say that 'this illustrated text adventure captures the essential magic of Andersen's classic fairy tale.' It may indeed follow the story, but doesn't, quite, live up to the above statement.

Basically, the story line goes something along these lines. When the devil's mirror broke, splinters of it entered Kay's heart, and he fell under an evil spell. The evil Snow Queen then spirited him away to her cold domain. Gerda, his friend, tries to rescue him, and eventually succeeds with the help of a raven, a wood pigeon, a wise old woman, and a reindeer.

You start off in your Grandmother's house, and before you leave, Gerda insists on washing, and kissing her grandmother goodbye. When you leave the house, you are suddenly hit with pangs of hunger, and wander into a nearby baker. Unfortunately, you have no money, but after wandering around a bit you discover a purse with a gold, coin in it. I hope the publishers will forgive me for being incredibly stupid, but after spending half an hour trying to get that coin out of the purse, I gave up in disgust.

Graphics wise, the game's nothing special, but then you don't expect Bob Stevenson graphics in an adventure game. By trying to capture the 'essential magic' they have ruined what could have been a good adventure.

Price: £9.50
Graphics: ★ ★
Sound: n/a
Playability: ★ ★
CCI Rating: NAFF

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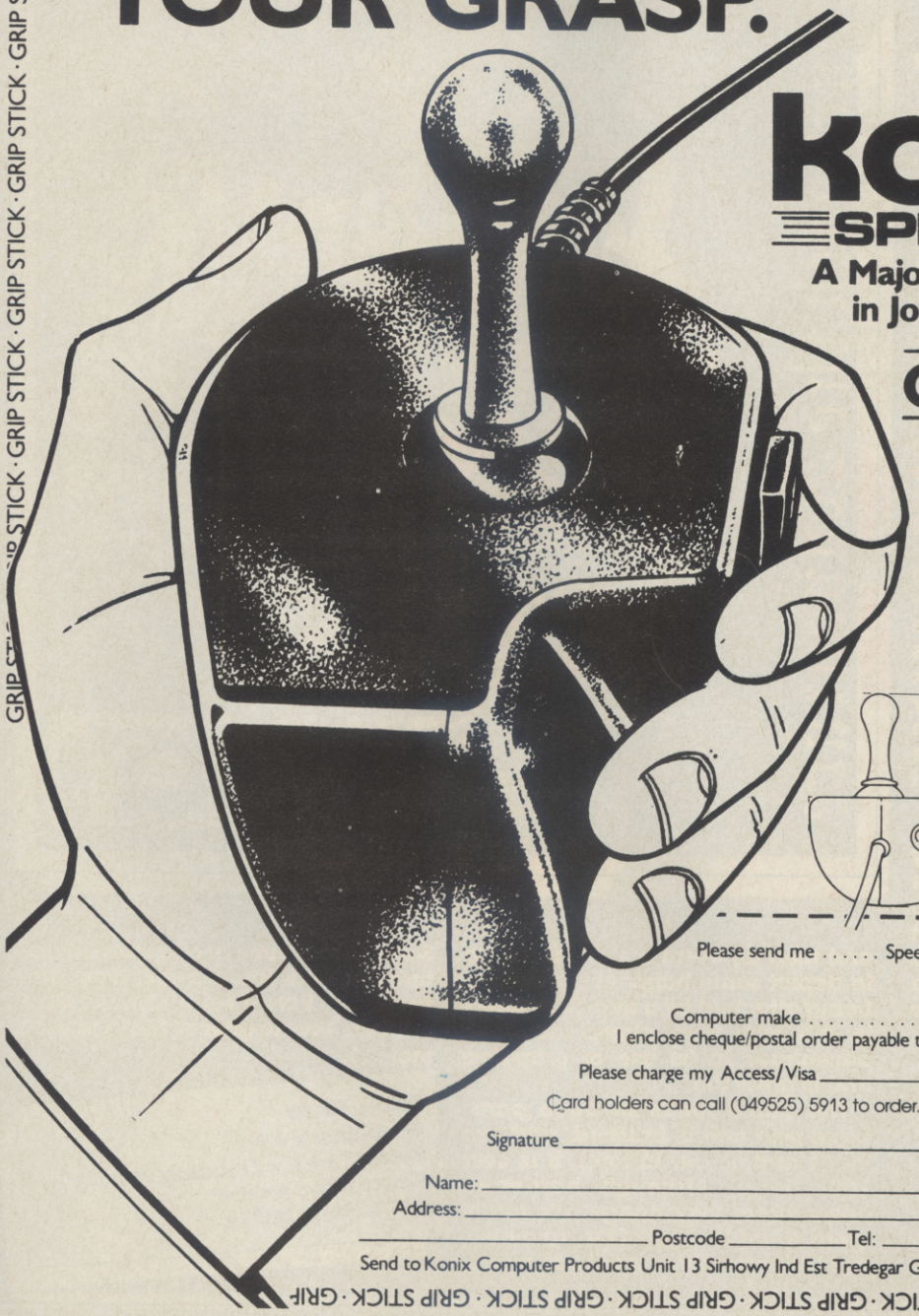

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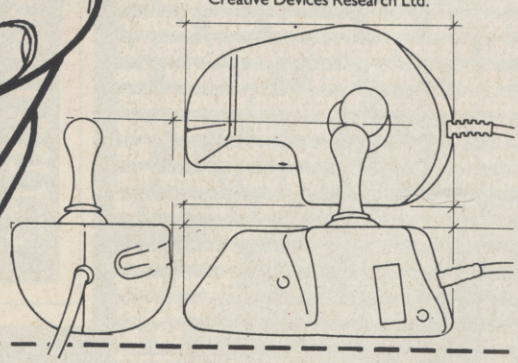

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CCI Rating

MEGA

TOUJOURS l'aventure!

Hunchback III

The adventure from Ocean

Sounds like one of those multi-part films doesn't it, and no it isn't in 3D. Hunchback III is Ocean's first adventure, and is a pretty good attempt too. As a company that has previously devoted its energies to producing action games, this marks a departure, and one which I hope they will follow up (Hunchback IV? Mon Dieu zis iz getting wurz zan Rockee!

Somewhere in the outskirts of Paris your cherie Esmerelda has been kidnapped by that nasty ol' cardinal and the Bishop of Notre Dame. Quasimodo (ze bells, ze bells zey ring in ma tête!) must attempt a daring escape, humping (pardon me) your way out of Notre Dame in the first part of the adventure, hobbling along under the streets of Paris in the second, and finally to confront the Cardinal and escape with Esmerelda. I don't want to nit pick (or as the French would say – encouler les mouches; look it up!) but Hunchback does go a little too far in its jolly humour. The introduction in the 'manual' is very witty but I draw the line at being asked by a picture of Quasi at the top, 'What Now?'

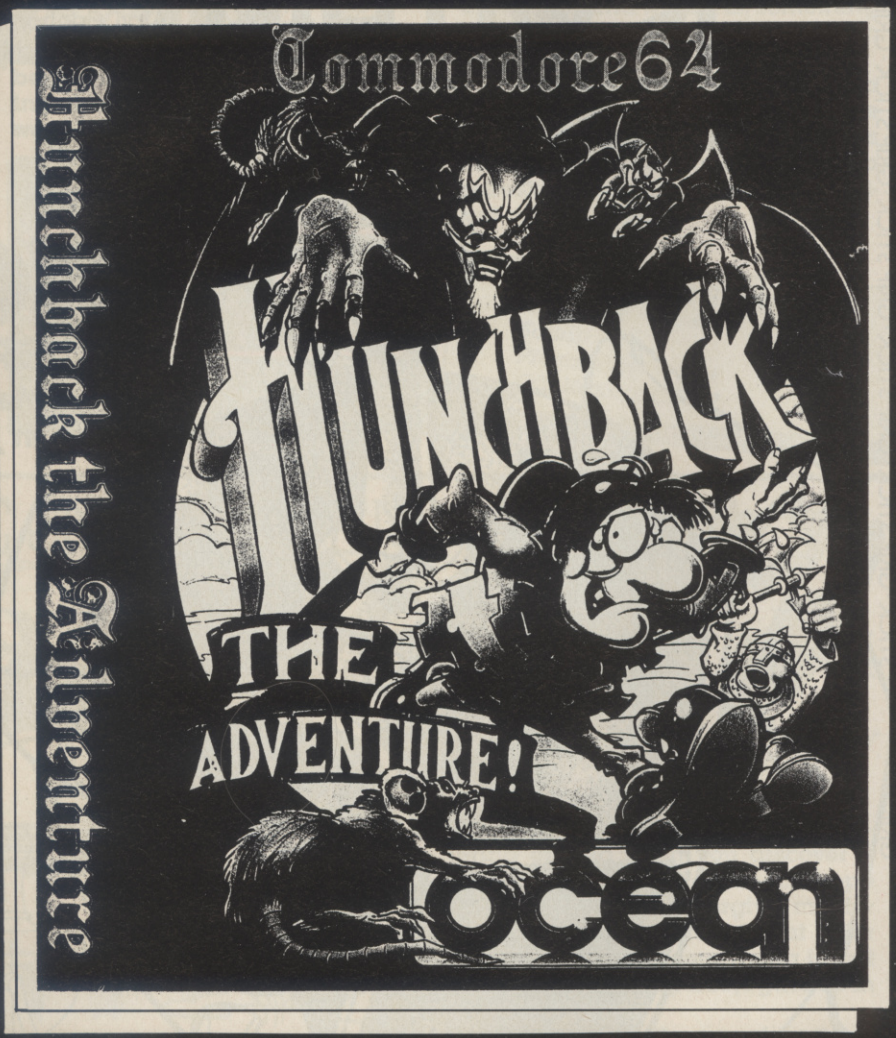
Unfortunately, Ocean have also opted to go for one of those very pretty but very unreadable designer character sets that seem to be so popular. OK, the built-in font may not be fantastic but at least you can read it! Having said that, it does add a certain 'je ne sais quoi' to the game and certainly presents a nice picture!

The prose itself is well written, and succeeds in being both witty and informative without being monotonous.

The game is a graphical adventure. All the objects you are carrying (up to 6) are displayed on the far right. A background scene appears neatly on the far left, and every now and then an event scene will apear to depict some happening, such as being attacked by a guard. It differs in this way from almost all other adventures in its use of graphics, and is great fun.

The game loads in three parts. Once part one is finished, part two loads and so on. In total, it is over 100k long. Although hardened adventurers may cringe, it's really great. Good for a bit of fun, and also, most importantly, a great adventure.

Sacré bleu! J'aime becoup des adventures comme Hunchback. C'est fantastique! Vive l'Hunchback! Vive l'Ocean. Vive la guerre! (Ed? Excusey moi . .).



Price: £9.95
Graphics: ★★★★
Sound: ★★★★ (loading music)
Playability: ★★★★
CCI Rating: MEGA

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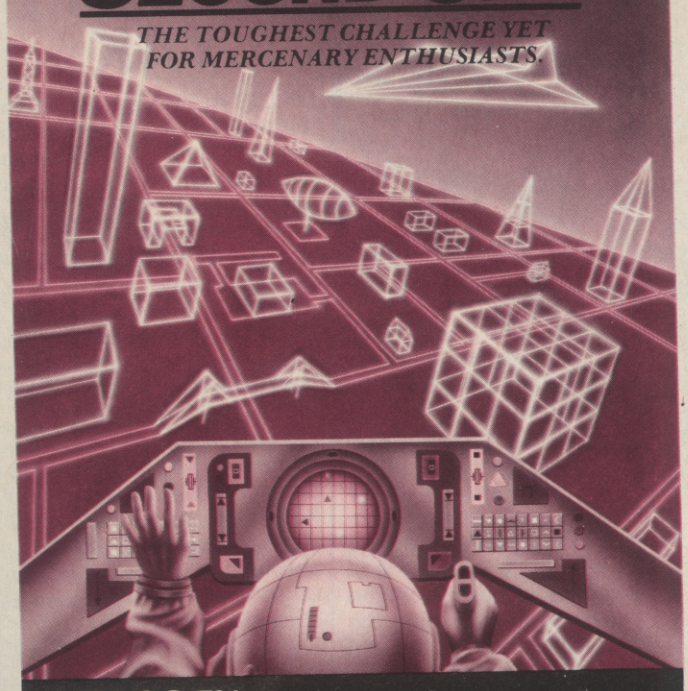

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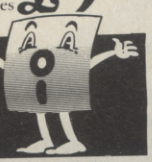

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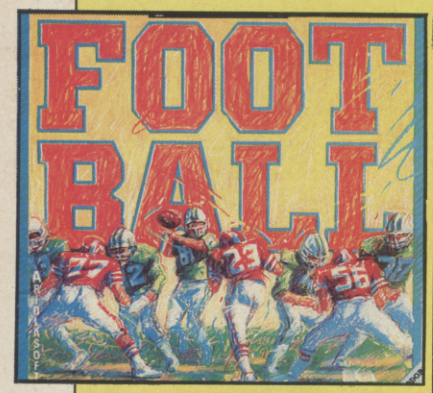
MEGA NEWS



Ariolasoft, who seem to be taking over the world as new games, Touchdown, Floyd the Droid, and so, and, of course, other software too flood out, have been generous (they can afford to be, Ed). They know we admired their football game 'Touchdown' and they've kindly offered CCI readers 10 copies in addition to the one now gracing the wall of CCI's office, for the first ten CCI readers who can name the last three winners of the top US football game — give us the name of the game too. Entries by October 15th (on a postcard please) to 'Touchdown' Competition, c/o CCI.

The Bristol Wine Festival seems to have become the temporary home of Arcana Software. After numerous attempts to get through to their offices and being answered by the festival, we gave up for the day.

YAKKITY, YAKKITY YAK

IRIDIS-ALPHA the all-action arcade strategy shoot-em-up for the C64 by Jeff Minter is set to smash onto the market on 27 August 1986.

Featuring spectacular bi-directional scrolling, breath-taking playing speeds and clammering sound effects, IRIDIS-ALPHA looks destined to follow other Minter offerings to the top of the software charts.

And in a surprise move the game will be manufactured and distributed by top games house Hewson under a new Hewson-Llamasoft label establishing a link between two of Britain's most respected software names.

Jeff Minter, winner of innumerable software awards, made his name as a top games author with clasics like Sheep in Space and Revenge of the Mutant Camels. His latest releases include the compilation, Yak's Progress.

IRIDIS-ALPHA for the Commodore 64 from Hewson-Llamasoft is available on 27 August, price £8.95 on cassette, and £12.95 on disc.

Ariolasoft's golf game score at the Open

Open Golf games

Ariolasoft (what again? Ed.) are grabbing the headlines with their golf construction set game. They set up a special stand at the British Open Golf Championship at Turnbury, Scotland to let the world's top golfers, and the crowds who came to see them, try out the successful golf computer game. It had a very warm welcome especially from the younger players and spectators. Some seemed to find it more exciting than the Open itself. We hear that Ariolasoft might be getting the winner himself to practice with the package.

Correction

The Audiogenic Paintbox design package is £9.95 and not £6 as incorrectly stated in last month's magazine.

Graphic Adventure Creator Competition

To celebrate the launch of GAC, CCI are giving away FIVE copies as prizes in a great competition.

To enter, simply answer the five questions below, send them to CCI on a postcard with your name and address (block caps please!)

Entries to: **CCI, 40 Bowling Green Lane, London EC1R ONE**

Closing date: **15th Sept.**

Name 3 graphical adventures on the 64 from different companies

Name Infocom's one and only adventure with graphics

Name 3 superheroes who feature in graphic adventure

Who produces The Graphic Adventure Creator?

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SSSHH!

(Is there anyone looking over your shoulder? If so, close the magazine quickly!)

No-one must know — don't tell a soul what is about to be revealed! This is the most awaited game ever! And we found it! As usual a CCI exclusive! Shh! Whisper who dares!

Marble Mad ness

(What? Speak up! Ed)

MARBLE MADNESS on the AMIGA! Yes, that's so astonishing, we'll say it again. Marble Madness, probably the most admired and marathon played arcade game of all time is now on the Commodore AMIGA — and CCI have found its secret hideout and played it. And we did it just for you dear reader.

C.C.I. caught up with MM at a secret location in a European country — we dare not reveal which, for many lives may be at stake! Drive carefully the life you save may be your own! (What's that got to do with it? Ed) You see here, on this very page, made possible by your ever faithfully CCI agent who risked his all, life, limb, toupee and shin pads, accompanied by CCI's fearless staff writer, tiny Julian Rosen to smuggle them out through the defences back to the magazine in the last dying minute before CCI went to press near the small village of Bobcollyer in darkest Cornwall.

'A BIT ODD'

Julian, normally tight lipped and laconic, was and is communicative as an Easter Island statue, almost delirious with wild excitement at this unique experience of playing with his own hands, (would he play with someone else's? Ed. Maybe I'd better re-phrase that...) this extraordinary game. He found it in his immortal words: 'Exactly the same as the Arcade version; though it was a bit odd playing it with a mouse. Yes definitely a bit odd I think, still I quite enjoyed it!! Amazing, Julian's enthusiasm!

You could call this a pre-preview but I promise you that MM will be properly reviewed in depth (in all it's 1000 levels!) as soon as it is complete. In the meantime, cringe other mags, eat your heart out other organs ('eat your heart out other organs'?! What sort of offal writing is that? Ed) CCI — the magazine with more exclusives that there are fluffy lollipops in Ludlow — has done it yet again! A special cheer (silent please, we don't want anyone to hear) for Julian Rosen and A. N. Other for their extraordinary scoop. The game of a lifetime — Marble Madness on the Amazing AMIGA!

They said no-one could find MM (If any other mag said they'd done it, we wouldn't believe them! Nor would you, we're sure). But CCI found it...They said no-one could play MM on the AMIGA. CCI played it...They said no-one could get back alive to tell the tale. We're here to prove them wrong. Vive CCI!

Dear CCI reader, remember we did it all for you, for you alone, just for your eyes only. Now please destroy this magazine before any one else finds out. (What? You've lost your marbles! You're fired! Ed).

'Superb Winter Events'

DEACTIVATORS FROM ARIOLASOFT

Deactivators has the rare privilege of being one of the very few original releases in a games world where tomorrow's game is yesterday's game with a few more sprites and sound effects added. Written by Ariolasoft and Tigress, it is scheduled for a September release and features some good sound tracks and nice if a little simple, graphics. Music of course can always eventually start to get on your nerves, so a 'music off' option has been thoughtfully included.

Deactivators is infuriatingly difficult, but luckily the addictive element ensures that you definitely won't lose interest in this game for a while. You control one of several droids, and to complete your task you'll have to switch control from one to the other at times. The task at hand is to deactivate a building, chucking out all the bombs you find through the exit. As only one of the droids can actually reach the exit, you have to throw the bombs from droid to droit until it can be reached.

The display shows the room you are in, and the adjacent room along with their exits. To get to the next room, you just walk through the exit, or fall through a hole in the floor (pretty tough droids — Ed). To get around the building, you can either walk from room to room or use transporters. Some of these transporters may not be active, so you'll have to find a circuit board and plug it into the main computer. You may also find yourself in the dark in several of the rooms at higher levels, and as with the transporter you must find the circuit board to switch on the lights.

Each room actually has its own gravitational field, so when throwing a bomb out of the exit, or to another droit, you must be careful to throw it at the right angle!

Once you get into the higher levels, things become very, very difficult. Rooms get rotated by 90, sometimes 180 degrees, which has the effect of totally disorientating you.

This should be a real hit. Although it doesn't feature stupendous graphics, it has incredibily addictive gameplay which of course is the most important part of any program. It won't be out for a few weeks, but when you see it I'd recommend you buy it. We rate it really Mega level. Price: Not fixed, but probably £9.95 and £11.95 c&d.

Exclusive!

Winter Events from Anco (preview)

There is some really top quality software coming out on the C16 now, and Anco seem to be at the forefront of the C16 field. Winter Events is a superb example of just what this machine can do. It is comparable with some of the software still being released for the 64, and would easily have passed off as a 64 game 18 months ago.

The graphics, especially for a C16, are outstanding, fully utilising the machine's graphical capability. This was a preview version and therefore not complete. The game lacked Downhill and Slalom, but by the time you read this, they should have been implemented. Judging by the rest of the events, they should be terrific.

The events available are Ski Jump, Biatholon, Bob-Sleigh, and Speed-Skating. Bob-Sleigh was definitely one of my favourites, depicting the course very nicely in smooth scrolling graphics. You have to watch the speed of the sleigh, and ensure that it doesn't start tumbling on the banks. You have to be sharp as a scalpel to avoid crashing into the walls. In Ski Jump, when you jump you are shown a picture on the right displaying what your posture ought to be, and a picture on the left displaying what you actually are doing. For the first few times, these were wildly different in my case, but once I got the hang of it it got easier, and became more of a challenge than an impossibility.

In Biatholon you move your joystick from side to side to move your man, and up and down to make him descend or ascend. The graphics here are easily equal to the 64's, and I think this event is actually better than the same event in the 64's Winter Games from Epyx.

This really is an incredible program. I must admit I never imagined that the C16 was capable of such good software, and I'm pleasantly surprised. Sometimes, it is nice to be proved wrong! It may still be warm weather but winter events will freeze you to your Commodore!

WINTER EVENTS

C16/PLUS 4

Compete in the six thrilling events - Biathlon, Bobsled, Ski Jump, Slalom, Down Hill and Speed Skating. The events start with opening ceremony accompanied by thrilling music. One to four players can select the country they wish to represent. The events with some of the most stunning graphics seen on C16/PLUS 4 provide a perfect back drop as the chase for medals progresses. TURBO LOAD ensures that you don't get a chance to cool down between the events.

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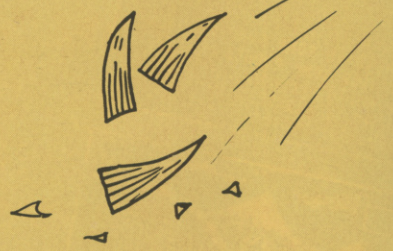
MEGAREVIEW

CCI Rating

CRISP



KUNG FU KID

Along with Mastertronic and Anirog, Gremlin Graphics must be the most prolific makers of good C16 games and here they've come up with another.

If you've played Kung Fu Master you'll know what this game's about. You have to fight your way through eight levels of mindless violence because you were banished to level eight by Emperor To-Ming.

You and your opponents are quite small and as you stride along they come whizzing towards you from behind as well as in front. You can punch, kick or jump over them and this is quite easy on the first level. But as you progress daggers, swords and things I call ghoulies come racing at you as well as the occasional Chinese Star.

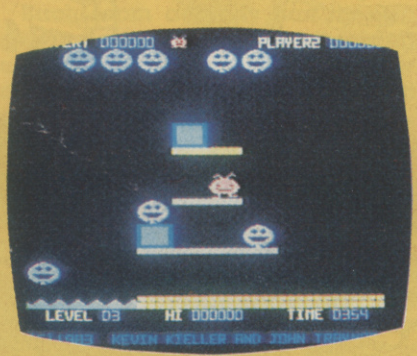
The the end of each level you have to defeat the Guardian Lizard which starts depleting your energy as soon as it's in sight. Sometimes this is difficult if your energy is already low so you have to be very careful, but you will soon find this game easy and complete fairly quickly. Though it may lack lasting appeal, we liked this game. It has a lot going for it.

Price: £6.95
Graphics: * * *
Sound: * * *
Playability: * * *
C.C.I. Rating: Crisp

CCI Rating

DODGY

Jack Attack



JACK ATTACK

I'd heard some very ugly rumours about this game and looked at the prospect of reviewing it with some trepidation. But I am glad to say that it isn't as bad as I expected it to be, though it is far from excellent.

The general idea of the game is to squash nine balloons which float down from the top of the screen. You can do this by jumping on them or by squashing them between blocks. Unfortunately they can do the same to you and can also jump higher than you.

The first screen is easy – just made up of blocks – but on further screens there are platforms, and pods of water in which you drown.

There is a time limit to complete each screen and when you do, the remainder of time is turned into a bonus. If you don't complete the screen in time though you aren't penalized. When you run out of time, the platforms on your screen dissolve and you must watch out for falling blocks.

The graphics on this game are nothing special, but I found them cute and colourful, this sound is – to coin a phrase – 'rubbish' and not really worth a mention.

Overall this game is fun to play but gets too frustrating at times. It is not one I'd recommend unless you are buying it for younger gamesters.

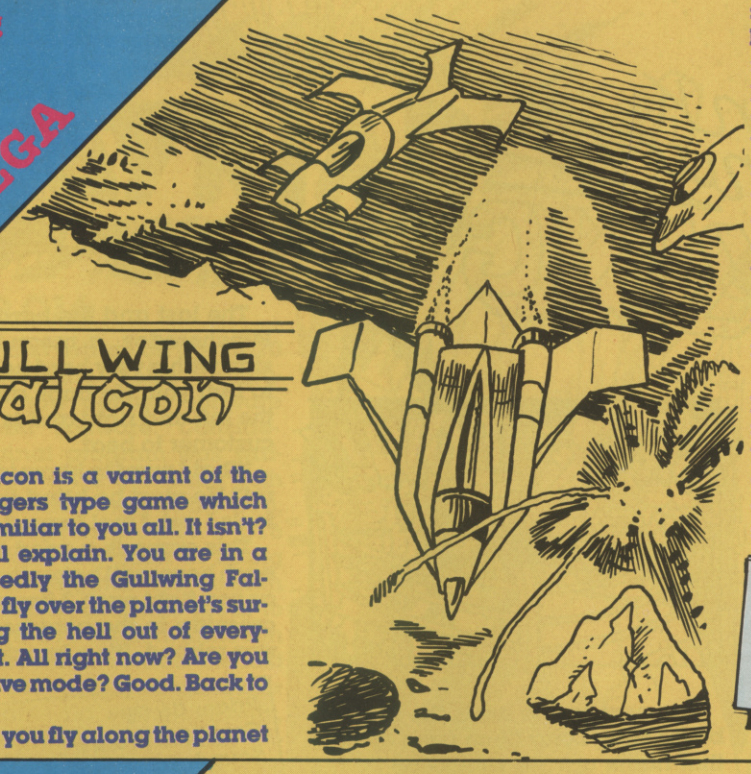
Price:- £6.95
Graphics: ★ ★ ★
Sound: ★
Playability: ★ ★ ★
C.C.I. Rating: Dodgy

MEGA REVIEW

CCI Rating

MEGA

GULLWING falcon



Gullwing Falcon is a variant of the old Buck Rogers type game which should be familiar to you all. It isn't? Okay then I'll explain. You are in a ship, supposedly the Gullwing Falcon, and you fly over the planet's surface blasting the hell out of everything in sight. All right now? Are you into aggressive mode? Good. Back to the review.

Like I said, you fly along the planet surface and the mountains in the background realistically swing from side to side. As you fly though, giant pillars zoom into view and you can either avoid them or try to go through them. This is tricky at first but you soon get used to it. Then come the enemy, lots of them. They attack from all sides and lurk behind the pillars ambushing you; hurling rockets when you least expect them.

You can fly at Warp 1 which is fast, up to Warp 63 which as you might imagine is totally impossible.

The game boasts impressive pseudo 3D graphics and very good sound. It is incredibly addictive with that 'just one more go' hold on you, and with the variety of ships to blast and ninety-nine levels to complete it should be a long time before you get bored with this one.

Price: £6:95
Graphics: ****
Sound: ****
Playability: *****
C.C.I. Rating: MEGA

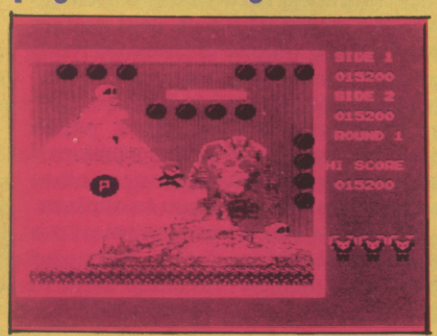
CCI Rating

MEGA

BOMB JACK

I awaited this game with as much excitement as I'd awaited Commando, and I'd been disappointed with that. So when it arrived I tried not to build my hopes too high. Now I've played it all I have to say is 'great work, Elite, you've made an excellent conversion'. Before I go raving on about how good this game is, I'll give you a basic run down of how it works.

You are Jack and you must collect bombs which are dotted around the screen. There are platforms to walk on and you can also do ultra high jumps that make it seem as if you were flying. You can hover as well, which is a great help, To hinder your progress in collecting the bombs are robots which fall from one platform to another, until they reach the floor where they turn into cannonballs, (I think that's what they are!) which bounce around the screen. And there's a bird that chases you the whole time and is very annoying as it gets you when you're least expecting it. Isn't that just like life?



This all adds to the enjoyment of the game though, and if they hadn't been put in it would have been far too easy. As it is, it's constantly got you twitchy yet interested. One slight disappointment is that there are only two backgrounds; the sphinx and the pyramid on one side of the tape and a Greek building on the other side (I'm not sure it's Greek really though it looks kind of Greek!) This is not a problem though as all the platform layouts are different, so there is plenty of variety.

Well done again Elite, you seem to be spotting one hit after the other.

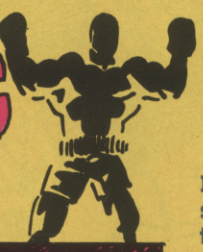
Price: £7.95
Graphics: ****
Sound: ***
Playability: *****
C.C.I. Rating: Mega

MEGA REVIEW

CCI Rating

MEGA

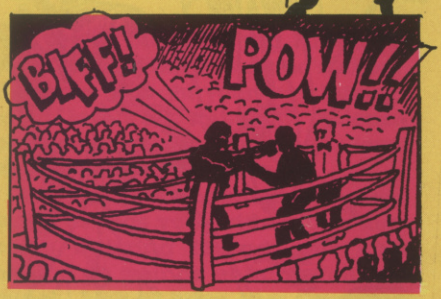
Frank Bruno's BOXING



BETTER LUCK NEXT TIME FRANK ! CCI.

At last big software firms are taking notice of the C16. What with World Cup Carnival Bombjack and others planned for release, I'm starting to get confused. Where there was virtually nothing, now there is a flood. Does somebody up there listen to CCI? Now here's Frank Bruno's Boxing from the Elite stables.

This game is very similar to the arcade game 'Punch Out' where you have a view of the boxers from behind your man. There are three opponents that test your skill to the limit, the first and, arguably the easiest is Canadian Crusher who lets rip with vicious right crosses all the time and delivers a knock out punch every time you try to deck him.



The next on the list is the Chinese boxer Fling Long Chop (who thought that name up? He should be for the chop!) who seems to think he's playing Thai boxing, as he likes to knock you out with kicks to our head. (Nice guy eh?–Ed.)

The last and the hardest is Andra Puncheredov, a mean-looking Russian with a very hard head who likes to butt you. He bobs and weaves to the left and right and is a real tough customer to beat.

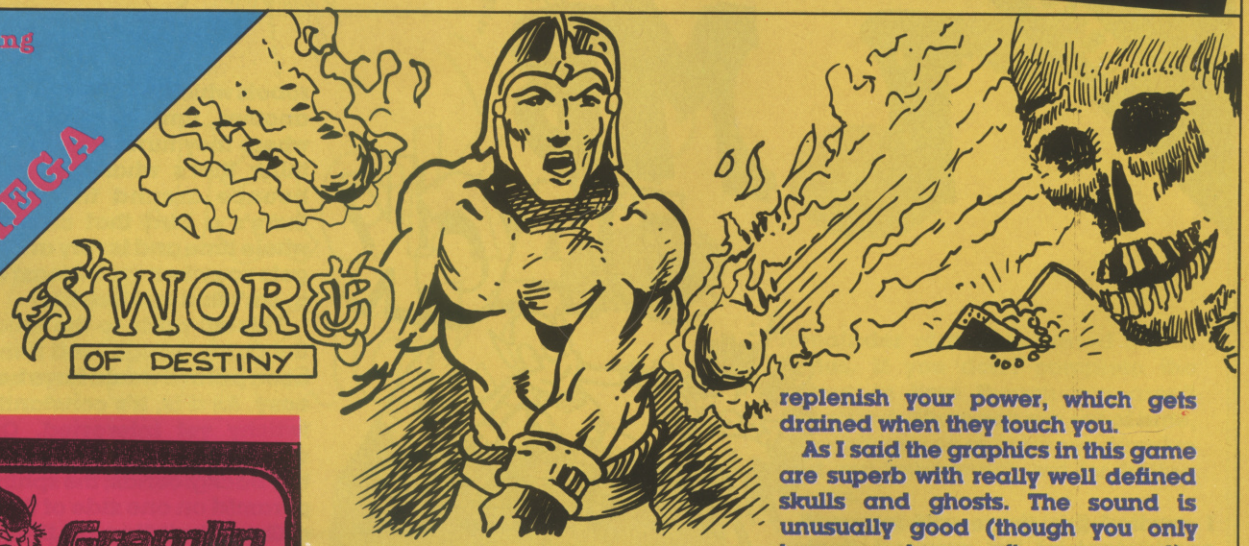
What I want to know is where is the ref? He must be blind to miss all the fouls I get. I feel brused all over!

This game is a good buy because each boxer will be pretty hard to beat as you fight each 3 times before progressing to the next boxer. Ref! We wuz robbed. It's a knockout!

Price: £6.95
Graphics: ★★★★
Sound: ★★★
Playability: ★★★ (punching gets tedious)
CCI Rating: MEGA

CCI Rating

MEGA



Gremlin Graphics

SWORD OF DESTINY

In this game you are Kelok, a master warrier whose heart has been stolen by the evil warlock Xorphas!! That sounds impressive doesn't it? That's what the game is too, with impressive graphics, sound and gameplay.

The object of the game is to find your heart and to do this you must go into the abyss of death and collect the flashing pieces of treasure lying around. Sometimes they are in inaccessible places and to help you get at these are hot air flues which bounce you up onto the platforms where they lie. This opens up other parts of the abyss for you to explore.

To hinder you on your mission are some evil looking ghosts, bats and other nasties. You can shoot these to get them out of the way and also replenish your power, which gets drained when they touch you.

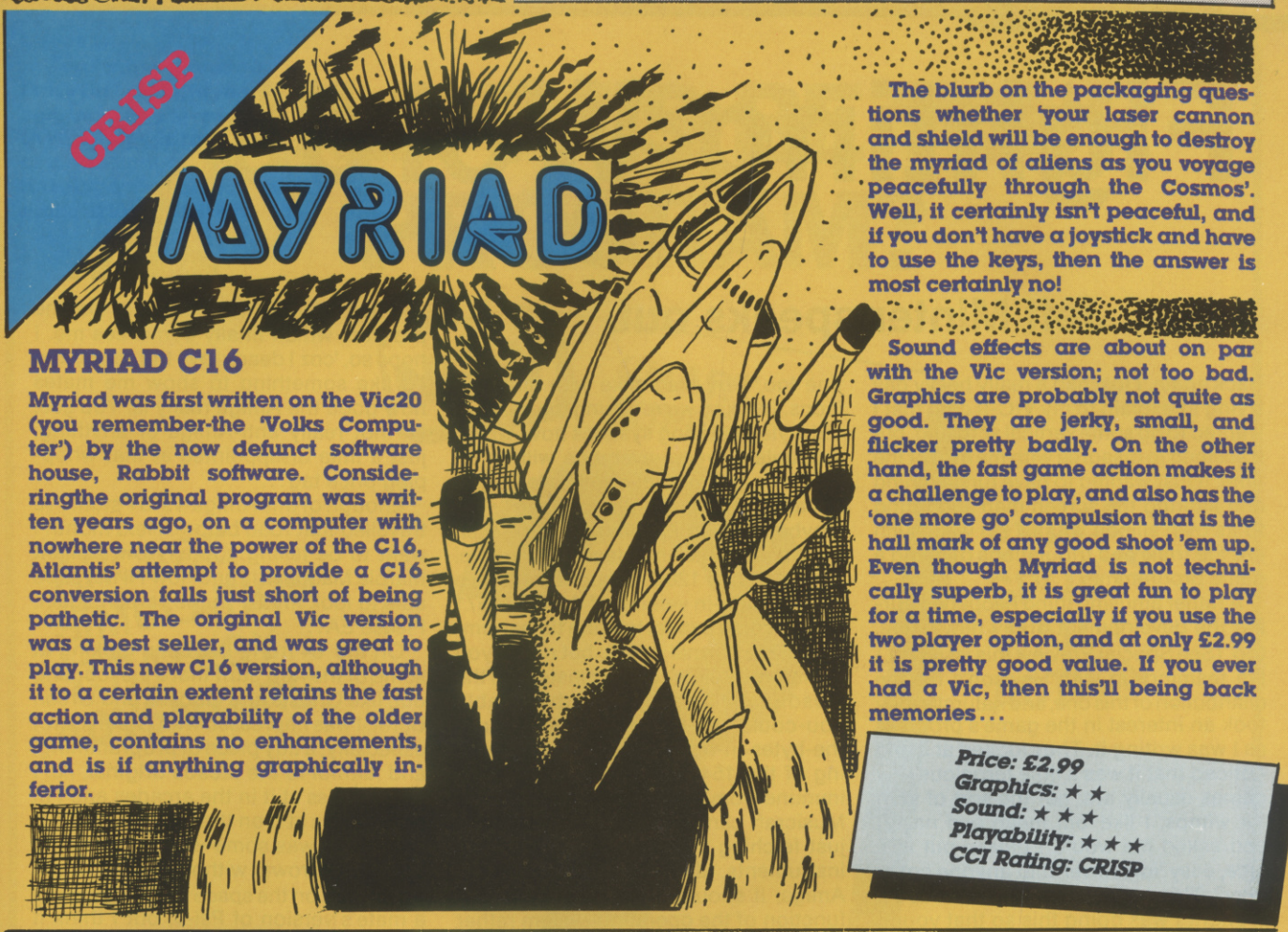
As I said the graphics in this game are superb with really well defined skulls and ghosts. The sound is unusually good (though you only hear any when you fire your sword).

The only really annoying feature about this game is the way you get pushed off a platform after you've spent ages bouncing up there. If you have the money this is the game to get.

Price: £6.95
Graphics: * * * *
Sound: * * *
Playability: * * * *
C.C.I. Rating: Mega

MEGA REVIEW

CRISP



MYRIAD C16

Myriad was first written on the Vic20 (you remember-the 'Volks Computer') by the now defunct software house, Rabbit software. Considering the original program was written years ago, on a computer with nowhere near the power of the C16, Atlantis' attempt to provide a C16 conversion falls just short of being pathetic. The original Vic version was a best seller, and was great to play. This new C16 version, although it to a certain extent retains the fast action and playability of the older game, contains no enhancements, and is if anything graphically inferior.

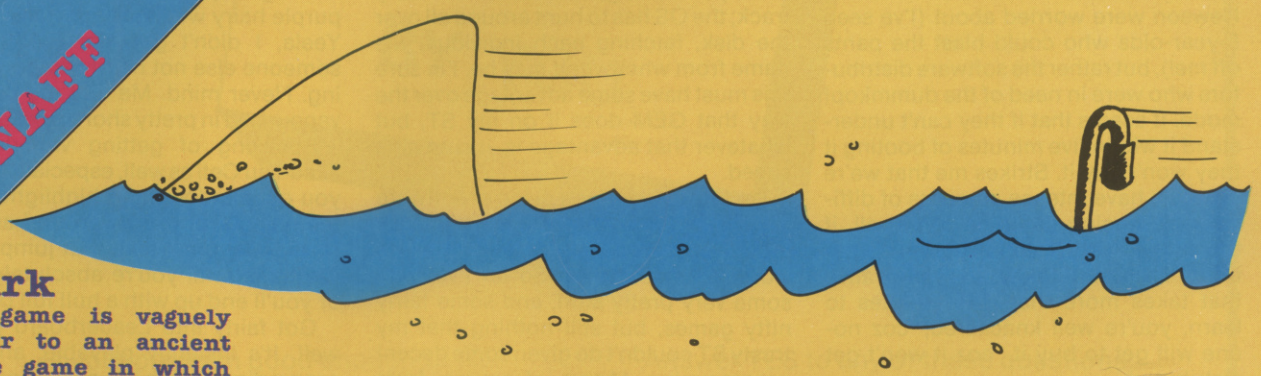
The blurb on the packaging questions whether 'your laser cannon and shield will be enough to destroy the myriad of aliens as you voyage peacefully through the Cosmos'. Well, it certainly isn't peaceful, and if you don't have a joystick and have to use the keys, then the answer is most certainly no!

Sound effects are about on par with the Vic version; not too bad. Graphics are probably not quite as good. They are jerky, small, and flicker pretty badly. On the other hand, the fast game action makes it a challenge to play, and also has the 'one more go' compulsion that is the hall mark of any good shoot 'em up. Even though Myriad is not technically superb, it is great fun to play for a time, especially if you use the two player option, and at only £2.99 it is pretty good value. If you ever had a Vic, then this'll being back memories...

Price: £2.99
Graphics: ★ ★
Sound: ★ ★ ★
Playability: ★ ★ ★
CCI Rating: CRISP

CCI Rating

NAFF



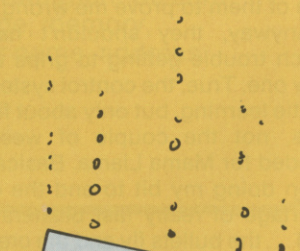
Shark

This game is vaguely similar to an ancient arcade game in which you had to torpedo ships from your submarine, with obstacles such as mines getting in the way. In Shark, you play the part of a diver equiped with a harpoon gun with which you must try to kill the shark. Someone has very nicely painted a large cross on the shark, so you know where to shoot it.

You move your diver from left to right, and you can shoot at the shark through gaps in the deck of a sunken ship. Unfotunately, your diver looks more like an InterContinental Ballistic Missile, and the shark like something that took three minutes in a coffee break to draw. There is no animation whatsoever, and movement is somewhat jerky.

When you have successfully hit the shark, you move on a level. In higher levels, yellow man (ICBM?) eating fish, harpoon blocking eels, jellyfish that have an amazing ability to move down, teleport themselves a few lines up a couple of pixels along and move down again, and squid which behave much like the jellyfish, apart from moving diagonally, try to prevent you from killing the poor unsuspecting shark.

I'm afraid that this is one of the worst games I've played on the C16. It is boring, has no sound effects, and displays awful graphics. However, it does cost only £1.99, so I suppose it is worth a few hours play.



Price: £1.99
Graphics: **
Sound: *
Playability: ***
CCI Rating: NAFF

THAT SINKING FEELING

Fighting Words

Jeff Minter speaks out.

Back again. I just had a really heavy day trying to explain to my VIC-II chip that I wanted to do some vertical scrolling, but it seemed to disagree with me a lot of the time, it just wanted to have fun glitching and altering the screen map according to its own silicon whims. Ah well, such are the trials and tribulations of being a game programmer.

A rather amusing thing happened during the development of my new game, too. (See Special Preview this issue Ed.) I'm teaming up with Hewson's for the distribution of this one, and naturally they took an interest in the game's progress as I was writing it. They looked at it and noticed that it was a little ferocious (my games usually are: not the sort of stuff for wimps; I like 'em mean and nasty) and asked me would I please put in a nice, easy 'idiot level' that anyone could play? This I duly did, but whereas I'd thought I was doing this so that young kids could play the game, I later found this to be untrue: it wasn't the kids that Hewson were worried about (I've seen 8-year-olds who could blast the pants off me!), but rather the software distributors who were in need of the dummkopf mode. It seems that if they can't understand it within five minutes of booting it they won't buy it. Strikes me that we're going to have intense amounts of difficulty advancing game design at all, if this is the case. If you program something wonderful, new and innovative that takes more than five minutes to learn, you're well knackered, 'coz no-one will get to buy it, 'coz it won't get distributed.

Maybe I'm too hard on distributors... but maybe I'm not. I'm still waiting for one of them to prove me wrong.

Anyway, they shouldn't have too much trouble getting to grips with my new one. True, the control system takes a little learning, but only about five minutes, not the couple of weeks you needed for Mama Llama. Basically, I've been doing my bit to end the chronic shortage of really fast blasters on the C64... the bullets fly and the creeps fry. Just the way I like 'em.

I must say I like the look of the new C64 that Commodore are releasing in America... looks well tasty, like the C128. Always did approve of the starship-enterprise look of the 128. That GEOS operating system looks mighty fine too, very Mac-alike with all those icons. I reckon we're seeing the death of old style operating systems now; within a couple of years everyone will be on windows and mice and will have forgotten all about the old days of load "•",8'. Maybe by then Commodore will even have come up with a decent disk drive. When I got my 128D I thought that, since it had a built-in version of the new 1571 drive, I could expect loading times comparable to normal drives; but no, all you get is 'pretty slow' loading instead of the 'absolutely amazingly unbelievably you-could-get-it-in-faster-by-poking-the-bytes-in-from-BASICLY slow' loading of the 1541. Even the Amiga's not immune from all this; my demo copy of Musicraft can spend up to 30 seconds just fetching the directory of available instruments. Mind you, to be fair to the Amiga, it should be said that this is a function of the operating system rather than the drive hardware. On Amiga disks you don't get a discrete directory track; the OS has to hunt around all over the disk, fetching each individual file name from wherever it may be. I'm sure this must have some advantage over the way that GEM does it on my ST, but whatever that advantage is, it sure ain't speed.

I'm still waiting for a piece of software to come along for the Amiga that'll really blow my brains out and convince me it's worth all that money. So far I've seen some very pretty stuff, and some fairly nifty games, but still nothing that my trusty ST couldn't do given some decent programming. (Apart, of course, from sound; I conceded absolutely to the fact that the ST has a horrible, wimpy little sound chip and the Amiga has an amazing, powerful, 4-channel, stereo sampling sound system. Mind you, for the price of an Amiga I could get myself a 520ST and a DX-7 synth.)

No, what I really want to see is a piece of programming that really makes the Amiga work. The sort of thing you'll take one look at and then go out and sell your body on the streets and your soul to the Devil to get enough money to buy the machine it runs on. ArcticFox could have been getting there if it had been better programmed; as it is it suffers from a classic case of cup-of-tea-between-frames, making it very difficult to control. Shame. Maybe the much-vaunted Marble Madness will be the program which finally convinces me. I hope so, 'coz I dearly love the game, and I'd like something to show me mates how good the Amiga really is. You see, I'm not really anti-Amiga or anything, just a little disappointed at that whopping price tag...

Enough of this Amiga-vs-ST stuff. I've travelled that road before. Next month I want to be telling you all how brilliant Marble Madness is and how I'll never be able to look my ST in the screen again. Please EA...

On the '64 front, I've been looking at some of the new stuff that's just coming out, like Ghosts and Goblins and Green Beret. I was impressed with Green Beret especially, a tidy piece of programming, and faithful to the arcade original, i.e. I was useless at it in the arcades and I'm still useless at it on the home version. If only there was some way of operating the flame thrower without having to use my big toe on the space bar... I tried out a mate's version of Psi-5, but I think it may have been bugged, because although I specifically requested a large purple hairy weapons specialist named Yeela, I didn't get him (her?), I got someone else not nearly so good looking. Never mind. Me and my crew got vapourised in pretty short order anyway.

Speaking of getting vapourised, I liked Tau Ceti as well, especially the way you get shadows and highlights on all the objects as you fly around amongst them. Just don't take that jump pad to Centralis until you're absolutely ready or you'll end up with a hull full of holes.

Got fairly into Leaderboard golf, as well. It's instantly playable, and well-programmed, with the exception of one classic example of programmer's cop-out; if the ball lands very close to the edge of one of the islands making up the course, when the program goes to display the close-up view, it makes your new position very slightly offshore and just a little bit out in the ocean. To cover this eventuality the program thoughtfully generates a little oval island for you to stand on to take your shot. Obviously the program is slightly inaccurate when the ball lands close to the edge of a land mass, but that little island is such a neat little cop-out it just adds to the fun.

I shall finish now; more news and stuff next month but right now it's time for me to hit the sack. After one last game of Stargate, that is; I broke 200,000 yesterday and want to keep me hand in...

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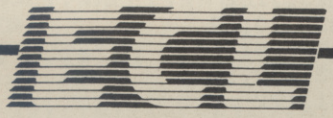

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P.S: We are also looking for 6502/Z80 programmers for urgent conversion work.

Program

ADVENTURE UTILITIES

This looks like adventure month... We thought you might like some useful programmes' out for creating Adventures. Malcolm Sorbet has written these and they have gained applause here for their easy use. The program/utilities can be used individually or all together as one large module.

```
10 FORX=52105TO52202:READA:POKEX,A:NEXT
15 DATA32,225,203,133,253,165,51,72,165
20 DATA52,72,134,251,132,252,134,51,132
25 DATA52,32,225,203,133,254,104,133,52
30 DATA104,133,51,165,253,56,229,254
35 DATA144,46,141,208,3,238,208,3,162
40 DATA1,160,0,177,251,209,34,208,8,200
45 DATA196,254,176,18,56,176,242,232
50 DATA206,208,3,240,16,230,251,208,230
55 DATA230,252,56,176,225,138,168,169,0
60 DATA132,2,96,160,0,56,176,246,32
65 DATA253,174,32,158,173,32,163,182,96
70 REM*********************************
72 REM    INSTRING UTILITY CBM 64
74 REM*********************************
76 POKE53281,5:POKE53280,4:POKE646,0
78 PRINTCHR$(147):B$="ICE"
80 A$="AXE*JUG*CUP*IMP*ELF*ICE*ORB*EGG"
82 PRINT"THIS EXAMPLE OF INSTRING WILL"
84 PRINT"FIND THE WORD (ICE) FROM THE"
86 PRINT"STRING BELOW....PRESS KEY F1"
88 PRINT:PRINTA$:PRINT
90 GETX$:IFX$<>CHR$(133)THENGOTO90
92 SYS52105,A$,B$:REM FIND B$ POSITION
94 P=PEEK(2)      :REM P=START POSITION
96 P=INT(P/4)+1   :REM CALCULATE WORD NO
98 PRINT B$;".....IS WORD NUMBER";P
```

```
100 REM*********************************
110 REM A WORD WRAPPING UTILITY FOR
120 REM THE COMMODORE 64 WHICH WILL
130 REM FORMAT YOUR STRINGS AND END
140 REM THEM WITH A FULLSTOP. AND THEN
150 REM CLEAR A LINE FOR THE NEXT ENTRY
200 REM*********************************
210 POKE53280,14:POKE53281,5:POKE646,0
220 SA=52000:EA=52102:FORX=SATOEA
230 READA:POKEX,A:NEXT:PRINTCHR$(147)
240 B$="TO FORMAT THE SENTENCE BELOW, PLEASE PRESS KEY F1":SYS52000,B$
250 SP$=CHR$(32)
260 A$="WHY SPOIL YOUR SCREEN DISPLAY WITH OVERLAPPING WORDS WHEN YOU CAN USE"
270 A$=A$+SP$+"A FAST FORMATTING UTILITY WHICH WILL PREVENT WRAPAROUND"
280 PRINTA$;CHR$(13)
290 GETX$:IFX$<>CHR$(133)THENGOTO290
300 SYS52000,A$
310 B$="IT LOOKS BETTER, AND YOU CAN ALSO FORMAT ANY PART OF IT, LIKE THIS"
320 SYS52000,B$
330 SYS52000,MID$(A$,54,42)
340 PRINTCHR$(13):END
350 REM*********************************
500 DATA32,253,174,32,158,173,32,163
510 DATA182,133,253,165,51,72,165,52,72
520 DATA134,251,132,252,160,1,132,211
530 DATA136,196,253,240,51,177,251,162
540 DATA39,228,211,208,35,201,32,240,12
550 DATA169,20,32,210,255,136,177,251
560 DATA201,32,208,244,140,208,3,169,13
570 DATA32,210,255,162,1,134,211,172
580 DATA208,3,200,76,62,203,32,210,255
590 DATA200,196,253,208,205,169,46,32
600 DATA210,255,169,13,32,210,255,169
610 DATA13,32,210,255,104,133,52,104
620 DATA133,51,96
```

```
100 POKE 53281,14:POKE53280,5:POKE646,0:PRINTCHR$(147);"PLEASE WAIT WHILST"
101 DIMC$(85),B$(100),A$(170),T$(170):PRINT"THE WORD TABLES ARE STORED"
102 GOSUB134:PRINT"AND THE M/CODE DATA.":FORX=49152TO49918:READA:POKEX,A:NEXT
107 PRINTCHR$(147);"MAKE A COPY OF THE WORDS AND NUMBERS.":PRINT:PRINT
108 PRINT"TO ALTER A WORD JUST STOP THE PROGRAMME"
109 PRINT"AND CHANGE THE RELEVANT DATA":GOSUB123:PRINTCHR$(147);"DIVIDER WORDS"
111 FORX=1TO15:PRINTX,C$(X):NEXT:GOSUB123:PRINTCHR$(147);"VERB WORD LIST."
112 T=20:FORX=1TO100:PRINTX,B$(X):IFX=TTHENGOSUB123:T=T+20
113 NEXT:PRINTCHR$(147);"OBJECT WORD LIST":T=20:FORX=1TO170:PRINTX,A$(X)
114 IFX=TTHENGOSUB123:T=T+20
115 NEXT:GOSUB123
116 REM*********************************
117 GOTO 312:REM TEST INTERPRETER
122 REM*********************************
123 PRINT:PRINT"PRESS KEY (F7) TO CONTINUE."
124 GETA$:IFA$<>CHR$(136)THENGOTO124
125 RETURN
129 REM*********************************
130 REM   DIVIDER WORD LOOP AND DATA
131 REM*********************************
134 T$="":A=50943 :FORX=1TO15:READC$(X):T$(X)=C$(X):GOSUB218:NEXT:GOSUB220
136 DATAWITH,IN,ON,AT,TO,UP,BY,OVER,DOWN,INTO,ONTO,INSIDE,NEAR,FROM,UNDER
138 REM*********************************
139 REM   VERB WORD LOOPS AND DATA
140 REM*********************************
142 T$="":A=49919:FORX=1TO85:READB$(X):T$(X)=B$(X):GOSUB218:NEXT:GOSUB220
144 T$="":A=50174:FORX=86TO100:READB$(X):T$(X)=B$(X):GOSUB218:NEXT:GOSUB220
148 DATAN,S,E,W,U,D,SCORE,LIST,INVENTORY,I,HELP,H,LOOK,L,QUIT,Q
152 DATAGET,TAKE,DROP,EXAMINE,READ,CUT,CHOP,MOVE,LIFT,PUSH,PULL,GIVE,OFFER,BUY
154 DATASELL,RUB,POLISH,KILL,FIRE,SHOOT,BURN,CLIMB,THROW,PLAY,STROKE,PAT,EAT
156 DATADRINK,FEED,OPEN,SHUT,BREAK,SMASH,KICK,HIT,STEAL,BEND,RAISE,LOWER,MEND
158 DATAFIX,REPAIR,CROSS,INSERT,LOCK,UNLOCK,SPREAD,SCATTER,DIP,TIE,UNTIE,SAW
160 DATASTAB,WEAR,RING,KNOCK,FLY,PRAY,LISTEN,AIM,COVER,UNCOVER,LEVER,PRISE
162 DATABLOCK,SAY,ASK,TELL,SAVE,LOAD,DIG,BLAST,LIGHT,DUST,FILL,EMPTY,POUR
164 DATAHAMMER,MELT,PRESS,MIX,PUNCH,TURN,WAVE
167 REM*********************************
168 REM  OBJECT WORD LOOPS AND DATA
169 REM*********************************
170 T$="":A=50431:FORX=1TO85:READA$(X):T$(X)=A$(X):GOSUB218:NEXT:GOSUB220
172 T$="":A=50686:FORX=86TO170:READA$(X):T$(X)=A$(X):GOSUB218:NEXT:GOSUB220
176 DATAIT,ORB,PEN,GRAIL,EMERALD,MUD,SCEPTRE,PIN,FLUTE,AXE,WAND,SWORD,SHIELD
178 DATALAMP,ARROW,SPADE,GLOVES,CASK,MUG,MIRROR,WEEDS,TINDERBOX,BRANCH,BOW
180 DATAEGG,MAP,APPLE,LOGS,BOOK,ASH,CRUST,FEATHER,STOOL,SCYTHE,BALL,COBBLE,KEY
182 DATABAR,RAGS,TWINE,NAIL,HOOK,RUG,PHIAL,ROBE,WOOD,BONE,NET,DOUGH,FUR
184 DATAMOUSE,ELF,ROPE,HAG,POACHER,GUARD,HUNTER,KING,MONK,FRIAR,DWARF
186 DATATEACHER,KNIGHT,IMP,BEGGAR,ABBOT,MAGICIAN,CAT,DOG,SWAN,RAT,FOOT,HORSE
188 DATAROGUE,MIST,ICE,BOULDER,BRIDGE,HANDLE,DOOR,CRATE,BED,SLAB,ROOTS,POST
190 DATAFROG,PANEL,SPIKES,BOX,CHEST,CABINET,CHAIR,TABLE,COUNTER
192 DATARAFTERS,MESSAGE,NEST,WELL,CIRCLE,WINDOW,PIPE,FLAME,HEARTH,GATE
194 DATATHISTLES,GROUND,FENCE,MAYPOLE,YARD,WATER,ANVIL,COFFIN,POOL,VAT,BEER
196 DATASHED,TARGET,CAULDRON,TAPESTRY,VAPOUR,SENTRY,GRILL,DISH,ALTAR,NUMBER
198 DATABOARD,TREE,SIGN,JUG,BOTTLE,TORCH,LETTER,RULER,OGRE,DRAGON,SCREEN
200 DATACLUB,SPEAR,DIAMOND,JAR,COINS,GOLD,PIE,CAKE,FRUIT,NUT,HERMIT,FAIRY
202 DATANEEDLE,ORANGE,JADE,ARMOUR,HEN,DUCKS,TIGER,GARGOYLE,WITCH,COMB
204 DATA GIANT,CAVE,PASSAGE,VAULT,WALL,TRAIL,TUNNEL,CORRIDOR
206 DATA PALACE,WAX,FORGE,TOWER
208 REM*********************************
212 T$="AND":A=51199:GOSUB220:RETURN
218 T$(X)=T$(X)+CHR$(32)+CHR$(32):T$(X)=LEFT$(T$(X),3):T$=T$+T$(X):RETURN
220 CO=CO+1:FORX=1TOLEN(T$):POKEA+X,ASC(MID$(T$,X,1)):NEXT:RETURN
222 REM*********************************
224 REM        M/CODE DATA
226 REM*********************************
230 DATA 160,40,174,32,208,169,98,153,7,6,138,153,7,218,136,208,244,162,24,32
```

Program

```
232 DATA 255,233,162,24,160,0,140,208,3,24,32,240,255,169,5,32,210,255,169,42
234 DATA 32,210,255,162,0,169,32,157,60,3,232,224,80,208,248,32,228,255,240
236 DATA 251,201,32,208,32,172,208,3,136,190,60,3,224,32,240,236,172,208,3
238 DATA 192,35,16,229,32,243,192,201,32,208,4,200,32,243,192,76,55,192,201
240 DATA 13,208,26,173,208,3,240,206,168,136,190,60,3,224,32,208,6,206,208,3
242 DATA 173,208,3,141,204,3,76,194,192,201,136,208,3,76,0,192,201,20,208,43
244 DATA 172,208,3,240,49,206,208,3,32,210,255,32,210,255,169,42,32,210,255
246 DATA 172,208,3,169,32,153,60,3,136,185,60,3,201,32,208,5,169,20,76,137
248 DATA 192,76,55,192,201,65,48,7,201,91,16,3,76,75
250 DATA 192,76,55,192,173,208,3,162,14,32,255,233,232,224,24,208,248,24,160
252 DATA 0,162,14,32,240,255,160,0,185,60,3,32,210,255,200,204,208,3,208,244
254 DATA 162,24,32,255,233,24,160,0,162,15,32,240,255,96,141,215,3,153,60,3
256 DATA 238,208,3,141,214,3,169,157,32,210,255,173,214,3,32,210,255,169,42
258 DATA 32,210,255,173,215,3,96,160,0,140,205,3,162,0,138,157,132,3,232,224
260 DATA 9,208,248,173,205,3,141,139,3,169,2,141,212,3,169,0,133,187,169,200
262 DATA 133,188,32,39,194,208,5,32,49,194,144,238,173,208,3,240,3,76,159,194
264 DATA 173,139,3,141,205,3,169,171
266 DATA 141,212,3,169,0,133,187,169,197,133,188,32,39,194,240,26,141,133,3
268 DATA 201,1,208,6,173,141,3,141,133,3,173,133,3,141,141,3,173,142,3,141
270 DATA 132,3,96,173,139,3,141,205,3,32,251,193,141,132,3,141,142,3,208,1
272 DATA 96,201,16,16,1,96,32,59,194,144,1,96,141,137,3,32,17,194,141,133,3
274 DATA 208,1,96,201,1,208,6,173,141,3,141,133,3,173,133,3,141,141,3,32,59
276 DATA 194,144,1,96,141,136,3,169,55,141,212,3,169,0,133,187,169,199,133
278 DATA 188,32,39,194,141,135,3,208,7,173,136,3,141,205,3,96,169,171,141,212
280 DATA 3,32,17,194,141,134,3,208,5,169,0,141,133,3,201,1,208,6,173,141,3,141
282 DATA 134,3,173,134,3,141,141,3,96,169,0,133,187,169,195,133,188,32,39,194
284 DATA 208,5,32,49,194,144,238,173,208,3,96,169,0,133,187,169,197,133,188
286 DATA 32,39,194,208,5,32,49,194,144,238,173,208,3,96,32,121,194,32,66,194
288 DATA 173,208,3,96,24,173,205,3,105,1,205,204,3,96,173,205,3,205,204,3,96
290 DATA 169,1,141,208,3,160,0,177,187,209,251,208,6,200,192,3,208,245,96,173
292 DATA 208,3,24,105,1,205,212,3,240,19,141,208,3,24,165,187,105,3,133,187
294 DATA 165,188,105,0,133,188,76,71,194,169,0,141,208,3,96,173,205,3,24,105
296 DATA 60,133,251,169,0,105,3,133,252,174,205,3,189,60,3,201,32,240,7,232
298 DATA 238,205,3,76,138,194,238,205,3,238,205,3,96,162,22,160,0,24,32,240
300 DATA 255,160,0,185,194,194,32,210,255,200,192,61,208,245,160,0,162,15,24
302 DATA 32,240,255,169,40,141,205,3,96
304 DATA 89,79,85,32,79,78,76,89,32,78,69,69,68,32,65,32,83,80
306 DATA 65,67,69,32,66,69,84,87,69,69,78,32,67,79,77,77,65,78,68,83,46,32,78
308 DATA 79,84,32,87,79,82,68,83,32,76,73,75,69,32,40,65,78,68,41,46
309 REM*********************************
310 REM        TEST INTERPRETER
311 REM*********************************
312 PRINTCHR$(147);"THE INTERPRETER DISPLAYS COMMANDS AS"
314 PRINT"A VERB NUMBER. AN OBJECT NUMBER. PLUS A SECOND OBJECT NUMBER.":PRINT
316 PRINT"YOU CAN SAVE THE INTERPRETER AND THE"
317 PRINT"WORD TABLES, AS A BLOCK OF MEMORY, JUST" "
318 PRINT"STOP THE PROGRAMME, AND TYPE GOTO 400.":PRINT
319 PRINT"PLEASE ENTER YOUR COMMANDS WHEN READY."
320 C=1:SYS49152:SYS49427
322 V=PEEK(900):REM VERB NUMBER
324 N=PEEK(901):REM 1ST OBJECT NUMBER
326 T=PEEK(902):REM 2ND OBJECT NUMBER
328 D=PEEK(903):REM DIVIDER NUMBER
330 L=PEEK(972):REM LENGTH OF INPUT
332 P=PEEK(973):REM PARSING POSITION
333 IFL>36THENC=5
334 PRINTCHR$(31);"COMMAND";C;
336 PRINTCHR$(144);"VERB";V,"OBJ1";N,"OBJ2";T
338 :
340 REM ON THIS LINE YOU WOULD GOSUB TO YOUR VERB REPLIES (ON V GOSUB 100,ETC)
342 :
344 IFC>7THENPRINT"THE DISPLAY AREA IS FULL":GOTO320:REM WHY SPOIL THE DISPLAY
346 IFL>PTHENC=C+1:SYS49432:GOTO322:REM DEAL WITH MULTIPLE COMMANDS
348 GOTO320:END
```

```
350 REM*********************************
352 REM SAVE INTERPRETER & WORD TABLES
354 REM*********************************
400 PRINTCHR$(147);"TO RELOAD THE CODE MAKE YOUR 1ST LINE"
402 PRINT"X=X+1:IFX=1THENLOAD'',1,1"
404 PRINT:FORX=52300TO52368:READA:POKEX,A:NEXT:SYS52300,49152,51204,01
406 DATA32,253,174,32,138,173,32,247,183,174,20,0,172,21,0,142,172,0,142,193,0
408 DATA140,173,0,140,194,0,32,253,174,32,138,173,32,247,183,174,20,0,172,21,0
410 DATA142,174,0,140,175,0,162,0,142,183,0,232,142,185,0,32,253,174,32,155,183
412 DATA142,186,0,76,237,245
```

```
2 REM************************************
4 REM A TEXT SCREEN SCROLLING WINDOW
6 REM SUITABLE FOR AN ADVENTURE GAME
8 REM************************************
10 POKE53281,5:POKE53280,4:POKE646,0
15 DIMA$(10):FORX=1TO10:READA$(X):NEXT
20 DATAONE,TWO,THREE,FOUR,FIVE,SIX
25 DATASEVEN,EIGHT,NINE,TEN
30 R=1:C=1:GOSUB90
31 PRINTCHR$(147);"ADVENTURE SIMULATOR"
32 PRINT:PRINT"COMMANDS ENTERED WILL"
33 PRINT"SCROLL UP TO LINE 11":PRINT
34 PRINT"COMMAND (LOOK) TO CHANGE ROOM"
35 PRINT:PRINT"YOU ARE IN ROOM ";A$(R)
36 PRINT:PRINT"PRESS * TO STOP"
40 SYS52203,11:REM SCROLL UP TO LINE 11
45 PRINT:PRINT"ENTER COMMAND";C
50 INPUT Q$:POKE199,1
55 GOSUB75
60 IFQ$="LOOK"THENR=R+1:GOSUB75:GOTO31
62 IFQ$="*"THENSTOP
65 PRINT"THE COMMAND IS ";Q$
70 C=C+1:PRINT:GOTO45
75 IFR<11THENRETURN
80 R=1:RETURN
85 REM*********************************
90 FORX=52203TO52287:READA:POKEX,A:NEXT
100 DATA32,253,174,32,158,183,142,167,2
110 DATA232,142,168,2,169,160,133,254
120 DATA160,0,132,253,32,15,204,169,224
130 DATA133,254,160,0,132,253,32,15,204
140 DATA96,177,253,145,253,200,208,249
150 DATA230,254,165,254,240,5,201,192
160 DATA208,239,96,169,53,133,1,172,167
170 DATA2,140,247,232,160,24,132,214
180 DATA162,0,134,211,96,174,168,2,32
190 DATA255,233,232,224,24,208,248,96
200 RETURN
210 REM SYS52276 CLEARS LOWER WINDOW
220 REM SYS52203,X (X=TOP ROW OF WINDOW
230 REM X MUST BE IN RANGE (1-24)
240 REM*********************************
```

SUPER DISKDOC

Bill Donald has examined in depth a Disk Editor. If you want to know what your actions do to the disk or your drive, read on.

SUPER DISKDOC REVIEWS

SUPER DISKDOC is a disk editor for use on all Commodore 8-bit hardware configurations. Before I go any further though it is probably a good idea briefly to mention what a disk editor is.

The floppy disk used by Commodore disk drives stores data from the computer on a flat, circular piece of magnetised material. The disk is quite thin and does not have sufficient rigidity to support itself. Because of this lack of rigidity the disk itself is fitted inside a protective sleeve, usually made from a plastic material. When floppy disks first appeared in the early 1970's they were encased in a cardboard sleeve and since this material was not particularly rigid, the generic name 'floppy' disk was coined and came into common use.

The disk itself stores the information sent to it from the computer by encoding the binary sequence of '0' and '1' into magnetic impulses. Thus binary I would be represented on the disk by a positive magnetism, whilst binary 0 would be a negative magnetism. The disk drive is the device that converts these binary codes into magnetic impulses. Because the data is passed between machines without the need for the user actually to read it, there is a great deal of compression of the data, not least because of the storage restrictions of the disk. Also some type of structure to the packet of data being sent to the disk is necessary. The disk drive has to know which track the user has requested and also how far into the track itself it appears, i.e. selecting a sector with the track.

If all of this sounds way over your head then buying disk editor would be a waste of money, because a utility of this nature allows you to access the date on the disk itself and manipulate the data in a variety of ways for example, by changing it or placing it somewhere else on the disk. For those readers who want to learn about how the disk operating system works I would suggest that they first purchase these two books 'The Anatomy of the 1541' and 'Inside Commodore DOS'. (both reviewed last year in CCI.) Although they specifically cover the 1541 disk drive, the techniques required little modifications for other Commodore drives and the theory described is identical irrespective of drive unit. Editing disks is not a task for those who do not know what they are doing, the penalty can be an unusable disk. SUPER DISKDOC goes further than this and also allows direct access to the drive memory buffers, and the penalties for errors in this area can mean a locked-up drive mechanism. There is a considerable difference between prodding about in the memory of the computer with a monitor; any mistakes can be undone by switching the machine off.

SUPER DISKDOC will run on any Commodore machine with at least 64k, so that rules out the C16, 32k PET and VIC-20.

There is no restriction on the drives and the utility works on the 2031, 4040, 1541, 1551, 1570, 1571, SFD 1001, 8050 and 8250, so no complaints there.

The screen display is divided into three logical groups, the upper half for the command menu, the lower left for a screen display in hexadcimal of the relevant data being read and the lower right for the ASCII equivalent of the hex codes. The menu employs the 'duckshoot' technique for selection with two primary commands which lead into further 'duckshoots', and some secondary commands. The two primary commands are DISK and FILE.

The DISK command subdivides into a further 13 subcommands, some of which define the system in use in terms of unit device numbers and printer type parameters. Some of these subcommands divide even further so a pretty comprehensive range of disk examination tools are available. For example the command 'LOG' gives and extended directory which includes load addresses for program files, track and sector occupation per file, side sector and record lengths for relative files. The entry to reading the drive buffers is also made from this menu and the manual supplied is helpful over providing details of the memory locations of the buffers on different drives. It appeared that the utility could provide a printout of this particular selection, which would be invaluable for advanced 'DOSsers'.

I would have liked to see a greater development of this function by allowing redirection of output to not only the screen but to a disk file, possibly on another drive for later examination. I was surprised that the PLUS/4 selection did not contain a Centronics printer driver, this can make it awkward examining the 1551 drive, as this unit will only interface to the PLUS/4 because hard copy is not available unless you have a Commodore serial printer. My Epson RX80 F/T, PLUS/4 and 1551 drive combination could not generate hardcopy.

The FILE command subdivides into 11 subcommands allowing forward or reverse travel along a file trail on the disk, locking of individual files, and the very useful INTERPRET subcommand. This will dump a disk block onto the screen in either text, BASIC, assembler or screen codes, a very powerful tool. The FILE command structure also includes a subcommand for recovering a corrupted file if you lack the skills to do this manually. A lot of potential users will be interested in this mode and I found this to be very successful on recovering from 'soft' errors. Corruption of files and their recovery is very much a hit and miss affair and if SUPER DISKDOC is successful it can be thought of as having paid for itself surely? More or less all of the necessary requirements to put a disk through the mill were covered on the residual 15 main menu commands.

The strengths of SUPER DISKDOC lie in its ease of use, providing all of the features a user would require in one package, a very good 23 page manual, the ability to cover all combinations of Commodore 8-bit hardware with automatic selection of either 80 column or 40 column display depending on the machine being used. It is written entirely in machine code apart from a BASIC loader to determine the operating unit and is very robust, I couldn't get it to go down. A good product at a good price, but only for those who know what effect their actions are having on the disk or drive unit.

Product: *SUPER DISKDOC*
Description: *Disk Editor and File Data Recovery Utility*
Price: *£19.95*
Supplier: *Precision Software Ltd.*

CalKit

"The Complete Problem Solving Software Package", proclaims the box. "No more traffic jams," think I. "Hot sun every Saturday afternoon during the cricket season - cheques from publishers by return post..."

No such luck.

A spreadsheet is certainly a very useful tool if you have to juggle with numbers but a universal panacea it is not. I suppose these advertising people have to earn their corn and we don't really believe everything we read on the outside of cartons, do we?

CalKit is a spreadsheet by Batteries Included, the US software house responsible for Paperclip - one of the better word processors available for the 64. It is marketed in the UK by Ariolasoft, who have made a beautiful job of the presentation. The disc is supplied in a ten-disc library box which fits into a custom made printed sleeve. (It's the sleeve which makes all those promises about the weather, unemployment, the Arms Race, groundsel in the vegetable patch and so on.)

Also in the disc box (Calkit is not available on tape) is a dinky little 72-page manual. Whilst I was genuinely impressed with the professional quality of the packaging, I'm afraid that the sacrifice of a decent sized manual is far too high a price to pay. After all, the manual is likely to be in use long after the packaging has ceased to have any effect on the user.

A spreadsheet is the electronic equivalent of a huge sheet of paper divided into rows and columns. The TV or monitor screen provides a "window" through which can be seen a small portion of the sheet. Text, numbers and formulae can be entered into the "cells" which form the intersections of row with column. The program can be instructed to perform a variety of operations on these cells and to enter the results of its calculations into other cells. Formulae can contain reference to the contents of other cells, permitting "what if?" calculations to be performed (what happens to the result if I alter one of the entries?).

It is probably true to say that spreadsheets are among the most commonly used programs on business micros. Depending on their degree of sophistication, they can be used for a wide variety of applications - bookkeeping, budgetting, comparing prices, scientific calculations, virtually anything that involves numbers, in fact.

Since spreadsheets are such useful programs and the Commodore 64 is such a popular computer, it won't surprise you to know that this is not the only such software package available. Those already on the market vary from the truly superb to the downright grotty via the good value and blatant rip-off. So where does CalKit fit into the spectrum?

Something of a "Curate's Egg", must be the answer. For speed and ease of operation it's as good as any I've seen. It has a clear screen display, convenient Help facility (not that you'll need it after a very short while) and a whole range of ready-made forms to enable the user to make practical use of the spreadsheet virtually from the word Go.

It is these "Library Forms" which really distinguish CalKit from the mass of other spreadsheets battling for space on the shelves of the software stockists. There are twenty forms in all, including a Home Budget which totals up all your income and expenditure; a Metric Conversion chart which allows you to type in your feet and inches etc and read off the metric equivalents; a Balance Sheet format which helps in assessing the viability of a business; a Cooking sheet which performs conversions on recipe quantities if you want to make, say, 27 fairy cakes instead of the standard 14. Whether the forms are used as they stand or modified for your own personal requirements is of course up to you.

All or part of any form can be printed out through the serial port (so you're confined to using Commodore printers or buying a hardware interface) and sheets can be saved in a variety of different formats. This enables data calculated by CalKit to be incorporated into documents prepared using Paperclip, for instance.

Everything that CalKit does, it does well. Very well indeed. My reservations with the program are mainly concerned with what it doesn't do. It has fewer commands than any other 64 spreadsheet I have seen (and I've had a go with about a dozen); it lacks a "walking" facility, whereby data is entered into a cell and the cursor moved on to the next cell with a single keystroke and it does not offer a "load from directory" option.

Then there's that manual. Not only is it tiny (less than A6) but it's printed in such a way that you have to have the glued spine at the top rather than the side. The screen shots used to illustrate the text are almost indecipherable and I for one found the writing style annoyingly condescending.

Conclusions: Notwithstanding the above criticism, **CalKit is an extremely well thought out program that will enable even a complete novice to make valuable use of the C64.** The built-in applications library contains usable templates that can be easily modified for practical use within a very short period of time. At £35, Ariolasoft must have pitched the price exactly right because I honestly can't make up my mind whether or not to recommend it!

Contact: Ariolasoft UK Ltd, 68 Long Acre, Covent Garden, London WC2E 9JH.

SABRE: 128

PRODUCTS

Products that are produced by the companies whose name they bear are becoming rarer and rarer. Korea, Taiwan, Hong Kong and points east are the sources that supply most of the world's computer needs. Trade names and labels mean less and less. It's an agreeable change to find a company like Sabre Technology that not only sells but manufactures too-and puts its reputation behind its products.

Two products that have found considerable favour with CCI have been recently released by Sabre. Teleconnect-80 opens up a new world to the average 128 user by allowing the use of an ordinary TV set to see 80 columns. At £14.95, it must be a bargain, as, in effect, it gives you that extra monitor we all want.

Another useful Sabre product is the Visionwitch. This device allows you to display both 40 and 80 columns on a monitor (80 columns in mono) and change between them at the flick of a switch. Suitable for moniters 1701 and Philips 75 series. It includes headphone socket and audio lead. Price: 913.95.

And these products come with a 12 month guarantee and, from what we hear, not one product they have manufactured has been found to be faulty. That's a high recommendation for anyone.

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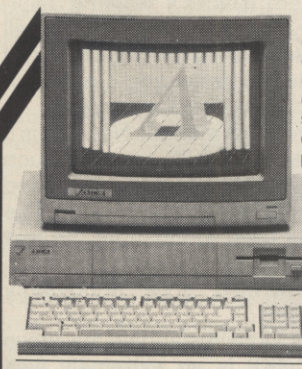

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A page, like a recipe or a film review may be saved to disc or cassette for subsequent reloading and Teletext information may be accessed from programs written in basic. So you can write programs to plot graphs of share movements or automatically load other information into programmes.

It will print out pages too. Currently the MPS801 and any Epson compatible printers are supported. Software for other printers that are suitable will be free-issued to those that require it at a later date.

With the Microtext Adaptor, an extra aerial signal is not required as the adaptor connects, via a lead which is supplied, to the 'Video Out' socket on the rear of any domestic video recorder, so using the tuning circuitry of the video rather than duplicating it within the adaptor. A domestic video recorder contains complex circuitry which takes the aerial input, tunes to a particular channel, filters, mixes and demodulates etc. to provide a signal called 'composite video' available on the 'VIDEO OUT' connector at the rear of the machine. The Microtext Teletext Adaptor uses this 'composite-video' signal as it's input. It just plugs into the video, this in turn conserves power, eliminating the need for an extra power supply and results in a significant cost reduction. A separate tuner will be available soon as an add-on for those without a Video recorder.

Microtext supply the adaptor itself, a connecting lead, software on cassette and a manual. The adaptor is guaranteed for 12 months. It is cased measuring 120 by 100 by 50mm, fits neatly on the user port of the Commodore. The lead connects between a socket on the adaptor and the 'VIDEO OUT' socket on the back of any domestic video recorder. The software is not protected and instructions are supplied to enable backup copies to be made on disc or cassette.

The price at £69.95 seems excellent value

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AS REVIEWED BY THIS MAGAZINE

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128

Last month's bad news hasn't happened yet, so we're still able to ship the 128D range at our original LOW prices... for the time being! There's more good news this month... Oxford have released their new PASCAL for the 128, and we've expanded our range of 64 products yet again!

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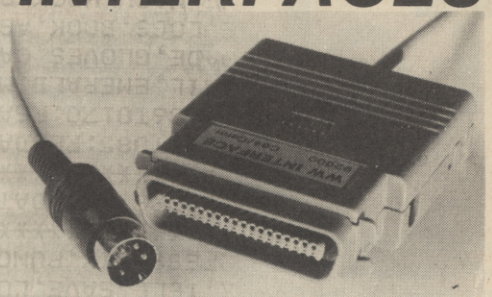

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FEATURES

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NYMPHS AMONG THE NODULES

There is a tremendous potential for the mining of nodules-chunks of highly metal-cores at the deep bottom of the sea. And future "aquaspace" colonies may include a nodule mine staffed entirely by young women, an energy-conversion farm occupied exclusively by Bridge Grand Masters, and a bioculture factory run by compulsive gamblers. (Yes, they will have their own private casino to occupy their spare time!) According to a new 296-page research report from Norwalk, U.S. based consulting firm International Resource Development Inc., this may be part of a solution devised within a couple of years by the U.S. National Aquaspace, Aeronautics and Space Administration (NAASA) to alleviate loneliness and isolation experienced by workers engaged in deep ocean commercial activities, as well as in extended trips in outer space. Mark Pine of the IRD research staff sees the creation of "special interest colonies" as part of the solution to these problems. "The concept is not at all new," Pine points out, "as long ago as the year 1000 BC there were colonies such as the Amazons, consisting of groups of people who chose not to live in the general heterogeneous community."

Soon as increasing amount of deep ocean commercial activities will be carried out by computer operated robots - and there may be some astonishing situations created. Anthony Mael investigates.

As for NAASA, the IRD staff believes that soon -- perhaps within a year or two -- the functions of today's Space Agency will be expanded to encompass the frontiers of the deep oceans as well as the frontiers of space beyone the Planet Earth. "There is even a school of thought which says that some of the pioneering leading-edge technology development in these environments should be handled by a single trained group of trained Astronaut/Aquanaut individuals; so many of the actual activities and skill requirements are the same in each case," says Pine.

Competition For Confinement

The key to successful commercialization of aquaspace -- and of outer space, too -- is to make life in the colonies so interesting, not to mention different, that able young workers will flock to compete for the jobs available. "It's a widely-known fact that wages at offshore oil rigs are among the highest anywhere, but the physical strength required in most of today's offshort colonies tends to limit job applicants to 'roughnecks' and artisans with special skills," Pine explains. **Soon, Pine believes, an increasing proportion of the activities in deep ocean commercial activities will be accomplished by computer-operated robotic manipulators and systems, requiring a high level of computer skills but much less muscle.** A much broader range of workers, running the gamut from newly-minted graduates to retirees, will soon be applying for aquaspace jobs, but according to Pine, "There's going to have to be a lot more attention paid to compatibility between the workers, and especially to commonality of interests."

"Huge" Profitability For Some Sectors

The new IRD report, which evaluates the market outlook for seven major offshore and deep ocean market sectors, predicts that "huge" profits will be make by commercial organizations with the vision and financial stamina to exploit the riches in and under the ocean. "This is one set of markets in which the United States is still generally at an advantage over its foreign competitors -- even over the Japanese, whose association with the seas has been long and close," comments Pine. The large amounts of capital required will restrict most of the major opportunity areas to large organizations. Small companies, however, are expected to participate strongly in the service, supply and transportation aspects of future deep-ocean operations.

In addition to nodule mining, other offshore opportunities explored in the new IRD report include oil and gas exploration and recovery, desalination (to produce fresh water for Saudi Arabia and other water-short areas), sea-farming and marine production of biochemicals and medicinals.

Offshore & Deep Ocean Commercial Opportunities

	Industry Characteristics				
	Capital Costs	Technical Barriers	State of Technology	Short-Term Prospects	Long-Term Prospects
Offshore Oil & Gas	High	High	Mature	Doubtful	Good
Mineral Mining	Very High	Very High	Immature	Poor	Fair
Mariculture	Moderate	Moderate	Maturing	Fair	Fair
Marine Biotechnology	Moderate	Very High	Immature	Poor	Good
Waste Disposal	Moderate	Moderate	Maturing	Very Good	Good
Energy Conversion	Very High	Very High	Immature	Poor	Good
Desalination	Moderate	Moderate	Maturing	Fair	Very Good

(SOURCE: INTERNATIONAL RESOURCE DEVELOPMENT INC.) #689

International Resource Development Inc. is a consulting and publishing firm which, over the past 15 years, has published almost 400 research studies examining the commercial significance of new technologies.

Further details on the $985.00 report (£689) entitled "OFFSHORE AND DEEP OCEAN COMMERCIAL OPORTUNITIES," IRD. 6 Prowitt Street, Norwalk, CT 06855; U.S.A.,; Telephone (203) 866-7800; Telex 64 3452.

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Database

Superior file management system with features found only with packages costing much, much more. Completely user-definable data entry format - colours definable - advanced mathematics using built-in machine code expression evaluator - fast sort on numeric and string fields - extensive searching with 'wild card' capability - user-definable data summaries - simple on-screen editing. A really POWERFUL database!

Mailing List

This program will enable you to keep a record of names and addresses and then print, examine, sort and find them, all with special selection techniques. Featuring the famous Gemini 'search-key' system, you have the option of creating your own dedicated coding routines for each name on the file.
For example, on most mail systems you are only given the standard headings such as name, street, town, county, etc. but with our system, you could for example find all companies listed that have a turnover in excess of a certain figure, or all subscribers who are behind with their subscriptions, or all people eligible for a Christmas card this year! A full range of utilities is callable from the menu including, ofcourse, label printing.

Home Accounts

Designed as a complete home accounting package, this program allows the user to set up and maintain a budget for items of household expenditure and compare actual with budget ,either numerically, or with the aid of chart graphics. A complete bank account routine is included, together with standard expenditure categories which may be changed to suit.

- Word Processor
- Database
- Mailing List
- Home Accounts
- Extensive Documentation

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General System Overview

The Gemini cash book package for the Commodore 64/128 microcomputer is designed for a hardware system consisting of:

1. Commodore 64/128 microcomputer.
2. 80 column printer.
3. Cassette or disk data storage.

Please note that running the program on disk will not change the way that the program works, but you will have the benefit of far greater speed and reliability for the loading and saving of files that a disk system provides.
There is a total of 199 nominal accounts, a large number of which may be defined by the user. You may have up to four cash control accounts, six bank control accounts, one sales ledger and one purchase ledger control account.
The program will store a data file consisting of:

1. The account titles.
2. The current cumulative balance on each account (debit or credit).
3. The net movement on each account for every month of the year.
4. VAT net sales and net payments figures, which are automatically created and maintained by the program.

This same data file is used by the FINAL ACCOUNTS program. The 'VAT FILE' which accompanies this package is designed primarily for those users on the Retailers special VAT schemes.
The main features of the CASH BOOK program are as follows:

1. Double entry routines for transactions through the cash/bank accounts and sales/purchase ledger control accounts.
2. Journal facility for the initial set up of accounts, or for adjustments to any of the accounts.
3. The facility to produce the following screened or printed reports:

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(b) Monthly transaction summaries.
(c) A trial balance whenever required.
(d) Screen VAT memo account balances (sales/net purchases, and VAT accounts).
(e) A batch printing facility which provides details of all the transactions entered in the current run of the program.

4. The facility to extract regular management information such as cash/bank balances, debtors and creditors, sales, overheads, etc.
5. The program interfaces with the Gemini FINAL - ACCOUNTS program to enable Trading and Profit and Loss accounts and Balance Sheet to be produced whenever required. Comparative or budget figures can be shown alongside the actual figures using this program.
6. Screen prompts throughout the program to facilitate ease of use.
7. Storage of VAT information to assist in the preparation of periodic VAT returns.
8. Error trapping routines to minimise input errors.
9. The facility to handle the financial transactions of sole traders, partnerships, limited companies, clubs, etc.

Users registered for VAT are reminded that it is a statutory requirement to inform their local VAT office when they change their accounting records on to a new computerised accounting system.

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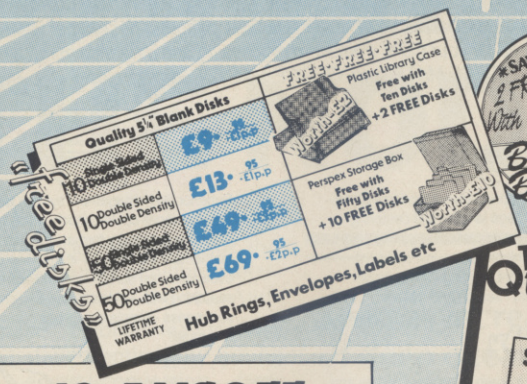

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Feature

1st at the Top

Sara Galbraith, MD

Kate McGibbon

... legal battles for a formidable duo!

They don't look tough — at first sight. They look very feminine and very charming. They stand out — as attractive women do even more — in a man's world. It is the world of software and computer book publishing. But when you talk to them, through the feminine charm, you can feel the strength of confidence that comes with success in a highly competitive world.

Sara Galbraith, MD and Kate McGibbon, Marketing Manager respectively of both 1st Publishing and 1st Software can certainly claim to be at the top of the league. Sara founded the company in 1984 and is taking it along the road to reach her objective of making it the 'Marks and Spencer' of software and books. In '1st's first year it spent £500,000 in promotion and that certainly brought it to the public's notice. The aim has been to anticipate the market and publish really new ideas for books and software on new machines. The coverage they are giving to the 128D and the AMIGA is a case in point. In this issue there is a review of dBase II for the 128 and of their new book 'Presenting the AMIGA'. They had in fact, three best sellers out of their first 8 books. A pretty good record.

Their emphasis is on business or 'serious' applications. 'We don't publish games or games books,' Sara Galbraith says. 'We concentrate on what we do well.' A statement which caused some hesitation when we heard they were bringing out a magazine. Kate McGibbon reassured us. 'It's only really for dealers. To give information about products. Like a catalogue only better.' Livewire Kate, known for the kind of determination that would find a needle in a dozen haystacks, joined '1st' only this year, but had already substantial experience in the business software market. She points out that at £119 R.R.P. 1st's dBase II is 'tremendous value'... 'No, it's not a high price,' she denies vigorously, fixing you with a sharp stare. 'It's worth it! And people either want dBase or they don't!'

Sara Galbraith points out that it is already an established product and that their corporate policy is 'not being outrageous for the next couple of years.'

Her normal calm is broken, however, and something like outrage takes its place when you mention '1st Software'. No not *her* 1st Software but another organisation that, Sara claims, is illegally using the name. 'We've spent 18 months and thousands of pounds challenging them legally' she almost snarls, 'All they've done is delay.'

'1st Software', let's call it No. 2, is a franchise — and joint owners are a U.S. company. The U.K. company, Reflex, has chosen to trade under the name of its U.S. associate, '1st Software'. Sara declares that the 1st (No. 2) is causing confusion among her company's customers and that she had registered the names well before. 'I really can't see why they need to use the name,' she says. 'They've got lots of trouble in the States — they've gone into a kind of liquidation. Haven't they got enough problems?'

1st Software No. 2 admitted to CCI that they were in a legal battle with Ms Galbraith's company but did not seem to worry that any confusion of names might affect their business. They claim no infringement has occurred because they are not legally registered as '1st Software' only trade under the name.

Sara Galbraith is determined to step up the efforts not only to make '1st Software' the leader in its field but to be the only '1st' in the field, even if it takes years to nail it down. Sara Galbraith and Kate McGibbon make a formidable pair. It would be hard to imagine that they will let anyone force their '1st' down to second place.

Anthony Mael

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Books

MARK ANDREWS, Commodore 64/128 Assembly Language Programming, Howard Sams (distributed in Britain by Pitman Publishing, 128 Long Acre, London, WC2E 9AN) £13.50

The number of books about machine language programming seems to be outstripping the number of learners, so what does this one offer that's new?

A unique aspect claimed for the book is that it's applicable both to the C128 and C64. However, the introduction is the only place where the C128 is specifically discussed. It is true that the microprocessor and consequently the assembly language are almost identical between the two machines. Nevertheless, the text is firmly rooted in the C64 and it is up to the reader to make the connections with the C128.

Mark Andrews' book is an attempt at "cradle to grave" instruction. It starts at a very low level and explains matters in more detail than many beginners need or are likely to be able to follow. It is still explaining binary, hexadecimal and decimal numbers at page 32. The next 10 pages describe the inner workings of the 6510 and 8502 processor in detail. Chapter 4 follows with a lengthy discussion of the three different assemblers used throughout the book. Merlin, Panther and Zeus.

In practice, the operation of all assemblers is so similar that any incompatibility between those covered and what you're using is likely to be more of a minor inconvenience than a stumbling block.

Programs

Well after all this, here we are starting Chapter 5, having written a very simple machine language program to add two 8-bit numbers and print the result to the screen. The next thing to hit the ardent student is a demonstration of Basic's USR function to call a machine language routine. The explanation is remarkably clear and introduces a number of complex aspects of machine language coding, the use of vectors, use of the floating point routines, etc. The problem is that the level of the discussion has suddenly jumped from a simple introduction to an elaboration of very sophisticated techniques.

The next chapters cover types of addressing (or the way assembly language instructions refer to memory locations) and branching and looping instructions. In both cases simple programs, much easier than the ones in Chapter 5, are provided.

Here, as elsewhere, the material is organized as a comprehensive list... it doesn't matter if a learner is likely to need the instruction at this stage or not ... if it exists then you're going to find out about it, and in glorious technicolour with stereophonic sound!

For an inexperienced learner, the approach in this introductory section of Mark Andrews' book suffers in comparison with that taken by other authors, for example Ian Sinclair or Jim Butterfield in *Machine Language for the Commodore 64,* (reviewed in September CCI)

However, Mark Andrew's book does have compensating strengths. A quick learner may find the pace in the more elementary books a bit tedious, and want a more accelerated and comprehensive introduction. The later parts of this book deal with specific "real life" applications: mathematical operations, graphics and sound. There is a lot of general detail about the way these function in the Commodore 64/128, as well as assembly language listings. For example there are annotated programs to move characters from ROM and RAM and modify them, and very neat "sketcher program" that builds up from a Basic version to let you draw on the screen with a joystick. Unfortunately the amount of explanation given for these programs varies a good deal, and the last few in the book are little more than briefly annotated assembly language listings.

The book has few errors. I've tried all the programs to page 122 and the listings are mercifully free of mistakes. However, there is a mistake on page 92, the Zero Page addressing mode example should be ADC$03, not ACD#$03. (ADC#$03 is for immediate mode addressing.) The standard of writing is generally clear and the book gets full marks for layout, particularly the use of colour and headings. It is easy to find information on a "flip through" basis, and the index is a good compromise between too many references, and a sketchy list. This sort of attention to detail is all too often missing from computer books, and Sams deserves a lot of credit here for producing a book where the information is very accessible.

For a rank beginner the book may be difficult. For someone with a little experience the practical orientation of the later sections will be very attractive. The price is high, but for your money you get good quality printing, paper, binding and layout. For a book you'll be handling as much as this one, those are real advantages.

Neil Day

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Program

MINI-SHEET

C64/(C128 in 64 mode)

David Gibbens

Mini-Sheet is a practical small scale spread-sheet program. It is fast loading and easy to use, and works on TAPE or DISC systems without alteration. Mini-Sheet is powerful enough to produce simple budgets; do credit card calculations, make gas bill forecasts and much more. You can use Mini-Sheet as it is; you can alter it to suit some special need, or use it to get aquainted with spreadsheets before buying a larger one. With Mini-Sheet you can keep up to five sheets in memory at a time, and pass results from one to the other. Thus giving instant switching between problems.

If you don't know what a spreadsheet is, rest assured, they are simple but useful things. In fact they are just big rectangles of cells (or squares) — think of a chess board. Each cell can contain a label (such as TOTAL or CASH), a number (such as 34.50) or a formula (such as 2★A1+5). A spreadsheet program goes through these cells: calculates the formulas and displays the answers. For example, the cells of a column could contain numbers, and the cell at the bottom could add them up.

This program mostly explains itself as it runs. Each job it can do is switched into action by pressing the appropriate f'key. An index to these, and other special keys, appears at the bottom of the screen. The spreadsheet display is 16 rows (named A-P) by four cols (named 1-4). When computing, the program calculates these cells columnwise: that is, column one (starting from top), then col two etc. You can store up to five spreadsheet layouts in memory at one time, each on a different page. Pages are numbered from 0 to 4. Pressing the £ key changes the page number. You can therefore switch easily from one sheet to another. To compute the sheet on the current page press f2.

Each cell may contain a LABEL, a NUMBER or a FORMULA — press f1, f3 or f5 respectively (the current cell is indicated by a sprite — this can be changed by using the CURSOR keys). The max length of a formula is 65 characters: the limit being shown by a 't' sign near the bottom of the screen. Formulas may use the values in other cells. This is done by quoting their addresses. For example: 10★B3 means, ten times the number in cell row 'B' col '3',. of the current spreadsheet.

If you want to call the value of a cell from a spreadsheet on another page, then you quote its page number: for example, 10★B3 from the sheet on page 4 is 10★B3£4. If you quote a cell not yet computed, or still being computed, you get the cell value shown on the screen at the start. This can be useful for updating cells. For example: if cell A1 contains the formula A1+1, then one is added to the value already in the cell, and this is done each time the sheet is re-computed. Formulas are written in ordinary basic. This means they can use IF statements: for example. "10★B3#IF(C4=1) THEN CELL=0". This means set the cell to 10★B3, but if C4=1 set the cell to zero. Notice that the IF is separated by # from the alternative formula.

You can also use IF statements to make the program jump backwards or forwards, to continue computing from another cell. Suppose we wanted to set a cell to 3 and make the program jump to cell A3 if C4=0, we would do this by writing "3#IF(C4=0) THEN A3$". Notice that the cell must always be given a value, in this case we gave it the value three.

If you want to set up user defined functions, then the easist way is to include them in the program before 'running' it. Line numbers 11-19 are suitable ones to use. It's also possible to modify the program, to allow them to be inserted directly from spreadsheets.

You can store and load the spreadsheets you have made (onto tape or disc), and print out your results. As before, each such action refers only to the spreadsheet on the current page. They are stored together with any calculated values they contain. If a spreadsheet must be stored onto a particular page (to get calls to it to work), then end its title with the page number, as a reminder: for example BUDGET 4. Lastly, if you accidently ★★CRASH★★ the program, then it is easily re-started: usually without losing any info. Press and hold the SHIFT-key and press CLR-HOME. Then type GOT0950 and press RETURN.

We liked David Gibbens spreadsheet programme and we think you will too. Just a word of warning though. It is very difficult to test this type of programme to destruction as it would use every type of command in every cell. Quite a task! But we have given it substantial testing and we found it worked. We hope you do too!

```
10 REM MINI-SHEET
20 POKE53281,1:POKE53280,15:BZ=4
30 H$=CHR$(19):C$=CHR$(147):D$=CHR$(17)
40 J$=CHR$(144):B$=CHR$(5):E$=CHR$(30)
50 RR=15:PRINTC$D$E$:FORW=1TO9
60 PRINTSPC(13)"* MINI-SHEET *"
70 NEXT:FORW=1TO8:SP$=SP$+" ":NEXT
80 FORW=1TO75:S1$=S1$+" ":NEXT
90 S2$=LEFT$(S1$,65):S3$=LEFT$(S1$,33)
100 S4$=LEFT$(S1$,20):S5$=LEFT$(S1$,13)
110 KK=3:R$=CHR$(18):F$=CHR$(146)
120 DIMV$(RR,KK,BZ),N$(RR,KK,BZ),C%(RR,KK,BZ)
130 Z=53269:POKEZ,0:GOSUB900
140 PRINTCHR$(8):P$=CHR$(152):GOTO950
150 REM COMPUTE
```

```
160 POKEZ,0:PRINTC$D$D$D$"A1=-VAL(V$";
170 PRINT"(R,C,LC))*C%(R,C,LC):GOTO210"
180 FORC=0TOKK:FORR=0TORR:PRINTH$D$D$
190 PRINTH$D$D$D$CHR$(65+R)CHR$(49+C)H$
200 POKE198,1:POKE631,13:END
210 NEXT:NEXT:C=0:R=0
220 W$=N$(R,C,LC):IFNOT(C%(R,C,LC))THEN290
230 PRINTC$D$D$:PRINTB$"CE="E$W$B$
240 PRINTD$D$CHR$(65+R)CHR$(49+C);
250 PRINT"=CE:GOTO280"
260 PRINT"GOTO480"P$H$:POKE633,13
270 POKE198,3:POKE631,13:POKE632,13:END
280 W=CE:GOSUB320
290 R=R+1:IFR>RRTHENR=0:C=C+1
300 IFC<=KKTHEN220
310 GOSUB790:GOTO950
320 REM ROUNDOFF
330 IFW=0THENW$="0.00":GOTO470
340 B=2:IFW<0THENB=1
350 A=(W<=9999999)AND(W>=-9999999)
360 A=(A)AND(ABS(W)>=.01):IFATHEN420
370 E=INT(LOG(ABS(W))/LOG(10))
380 A=2:IF(E<0)THENA=1
390 EE$=MID$(STR$(E),A):W1=LEN(EE$)
400 W$=MID$(STR$(W/10↑E),B,7-W1)
410 W$=W$+"E"+EE$:GOTO470
420 W$=STR$(SGN(W)*INT(ABS(W)*100+.5))
430 IFLEN(W$)>2THEN450
440 W$=LEFT$(W$,1)+"0"+RIGHT$(W$,1)
450 W1$=LEFT$(W$,LEN(W$)-2)
460 W$=MID$(W1$+"."+RIGHT$(W$,2),B,8)
470 V$(R,C,LC)=RIGHT$(SP$+W$,8):RETURN
480 AD=LEN(W$)-1:FORW=3TOAD
490 IFMID$(W$,W,1)<>"£"THENNEXT:GOTO560
500 W1$=LEFT$(W$,W-3):W3$=MID$(W$,W+2)
510 A1$=STR$(ASC(MID$(W$,W-2))-65)+","
520 A2$=STR$(VAL(MID$(W$,W-1))-1)+","
530 A3$=MID$(W$,W+1)
540 W2$="VAL(V$("+A1$+A2$+A3$+"))"
550 W$=W1$+W2$+W3$:W=AD:NEXT:GOTO230
560 FORW=2TOLEN(W$)
570 IFMID$(W$,W,1)<>"£"THENNEXT:GOTO600
580 W$=LEFT$(W$,W-1)+":"+MID$(W$,W+1)
590 W=LEN(W$):NEXT:GOTO230
600 W$=RIGHT$("ZZZ"+W$,3)
610 IFRIGHT$(W$,1)<>"$"THEN660
620 R=ASC(W$)-65:C=ASC(MID$(W$,2))-49
630 IF(R<0)OR(R>RR)THEN660
640 IF(C<0)OR(C>KK)THEN660
650 GOTO220
660 PRINTE$"ERROR CAUSED BY"
670 PRINT"ROW "CHR$(R+65);
680 PRINT" :COL "CHR$(C+49);P$D$
690 GOSUB1880:PRINTC$:GOSUB1530:GOTO950
700 REM SHOW SS
710 PRINTH$S5$"  "J$"MINI-SHEET"
720 PRINTE$"TITLE:"P$T$(LC);
730 PRINTTAB(28)"PAGE NO."LC
740 PRINTR$D$E$" ...1...  ...2...   ";
```

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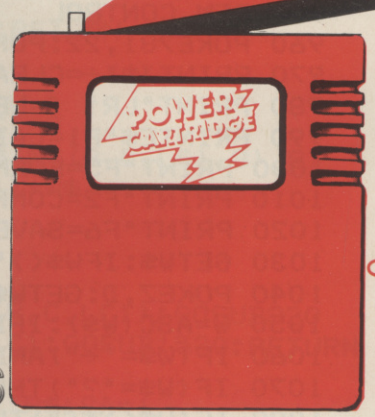

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RENUMBER: *Also modifies all the GOTO's GOSUB's etc. Allows part of a programme to be renumbered or displaced.*
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leaves all of your Commodore memory available for programming. Also works in BASIC-ROM, KERNAL and I/O areas.
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Press Reset button and SPECIAL MENU apears on screen **CONTINU** - *Allows you to return to your program.* **BASIC** - *Return to BASIC* **RESET** - *Normal RESET.* **TOTAL BACKUP DISK**- *Saves the contents of the memory onto a Disk. The programme can be reloaded later with BLOAD followed by CONTINUE.* **RESET ALL** - *RESET any of programme.* **TOTAL BACKUP TAPE** - *As BACKUP DISK but to TAPE.* **HARDCOPY** - *At any moment, prints out a Hardcopy of the screen. Using CONTINUE afterwards you can return to the program.* **MONITOR** - *Takes you into the Machine language Monitor.*

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Program

```
750 PRINT"...3...    ...4...    ";
760 FORR=0TORR:PRINTE$R$CHR$(65+R)F$P$;
770 FORC=0TOKK:PRINTV$(R,C,LC)P$,
780 NEXT:NEXT:RETURN
790 REM DISPLAY
800 PRINTC$:GOSUB700:R=0:C=0
810 GOSUB820:RETURN
820 REM SHOW CELL
830 D=1:PRINTH$P$CHR$(65+R)CHR$(49+C)
840 POKE781,20:POKE782,0:SYS65520
850 PRINTS1$
860 SYS65520:POKEZ,0:V=53264
870 PRINTN$(R,C,LC):X=C*80+32:Y=R*8+81
880 POKEV,0:IFC=3THENX=16:POKEV,1
890 POKEZ-21,X:POKEZ-20,Y:RETURN
900 REM SPRITE
910 POKEZ+18,7:POKEZ+8,1:POKEZ+6,1
920 POKEZ+2,0:POKE2040,11
930 FORW=731TO767:POKEW,0:NEXT
940 FORW=704TO730:POKEW,255:NEXT:RETURN
950 REM CONTROL
960 POKE781,22:POKE782,0:SYS65520
970 PRINTJ$"←=CLEAR CELL ?=PRINT C=C";
980 PRINT"LR↑ £=NEXT PAGE"
990 PRINTE$"F1=LABEL F3=NUMBER ";
1000 PRINT"F5=FORMULA F7=DISPLAY"J$;
1010 PRINT"F2=COMP  F4=TITLE  ";
1020 PRINT"F6=SAVE    F8=LOAD"H$P$
1030 GETW$:IFW$<>""THEN1030
1040 POKEZ,D:GETW$:IFW$=""THEN1040
1050 W=ASC(W$):IFD=0THENPRINTC$
1060 IF(W$="←")AND(D=1)THEN1390
1070 IF(W$="?")THENGOSUB2140:GOTO950
1080 IF(W$<>"£")THEN1110
1090 LC=LC+1:IFLC=(BZ+1)THENLC=0
1100 GOTO1270
1110 K=(W=17)OR(W=29)OR(W=157)OR(W=145)
1120 IFW$="C"THEN1170
1130 IFKTHEN1330
1140 IF(W<133)OR(W>140)THEN950
1150 ONW-132GOTO1310,1320,1280,1270
1160 ONW-136GOTO150,1290,1250,1260
1170 PRINTC$E$"CLEAR SHEET:"P$"SURE? Y/N"
1180 GETW$:IFW$<>""THEN1180
1190 GETW$:IFW$=""THEN1190
1200 IFW$<>"Y"THEN1270
1210 PRINTC$:FORR=0TO15:FORC=0TO3
1220 C%(R,C,LC)=0
1230 N$(R,C,LC)="":V$(R,C,LC)=""
1240 NEXT:NEXT:T$(LC)="":GOTO1270
1250 D=0:POKEZ,0:GOSUB1660:GOTO950
1260 D=0:POKEZ,0:GOSUB1740:GOTO950
1270 GOSUB790:GOTO950
1280 GOSUB1410:GOTO950
1290 POKEZ,0:PRINTC$D$:INPUT"TITLE=";T$(LC)
1300 T$(LC)=LEFT$(T$(LC),16):GOSUB790:GOTO950
1310 GOSUB1560:GOTO950
1320 GOSUB1620:GOTO950
1330 IFD=0THEN950
```

```
1340 IF(W=17)AND(R<RR)THENR=R+1
1350 IF(W=29)AND(C<KK)THENC=C+1
1360 IF(W=145)AND(R>0)THENR=R-1
1370 IF(W=157)AND(C>0)THENC=C-1
1380 GOSUB820:GOTO1030
1390 N$(R,C,LC)="":V$(R,C,LC)="":C%(R,C,LC)=0
1400 PRINTC$:GOSUB1530:GOTO950
1410 REM GET FORMULA
1420 IFD=0THENRETURN
1430 POKE781,20:POKE782,0:SYS65520
1440 PRINT"  ";
1450 PRINTN$(R,C,LC);
1460 PRINTLEFT$(S2$,(65-LEN(N$(R,C,LC))));
1470 SYS65520
1480 INPUTN$(R,C,LC):V$(R,C,LC)="        ?"
1490 N$(R,C,LC)=LEFT$(N$(R,C,LC),65)
1500 C%(R,C,LC)=N$(R,C,LC)<>""
1510 IFW=135THENGOSUB1530
1520 RETURN
1530 REM UPDATE DISPLAY
1540 RA=R:KA=C:GOSUB700
1550 R=RA:C=KA:GOSUB820:RETURN
1560 REM LABEL
1570 IFD=0THENRETURN
1580 GOSUB1410:C%(R,C,LC)=0
1590 W$=RIGHT$(SP$+LEFT$(N$(R,C,LC),8),8)
1600 V$(R,C,LC)=CHR$(151)+W$
1610 GOSUB1530:RETURN
1620 REM NUMBER
1630 IFD=0THENRETURN
1640 GOSUB1410:W=VAL(N$(R,C,LC)):GOSUB320
1650 N$(R,C,LC)=V$(R,C,LC):GOSUB1530:RETURN
1660 REM SAVE
1670 PRINTC$E$"SAVE MODE"P$:SA=1
1680 SA$="W":IFT$(LC)=""THEN1870
1690 GOSUB1930:IFWTHENRETURN
1700 CH$=CHR$(34):FORR=0TORR:FORC=0TOKK
1710 PRINT£8,CH$" "+V$(R,C,LC)CH$
1720 PRINT£8,CH$" "+N$(R,C,LC)CH$
1730 PRINT£8,C%(R,C,LC):NEXT:NEXT:GOTO1850
1740 REM LOAD
1750 PRINTC$E$"LOAD MODE"P$:T$(LC)=""
1760 PRINTD$"GIVE TITLE TO LOAD ";
1770 SA=0:SA$="R":INPUTT$(LC)
1780 IFT$(LC)=""THEN1870
1790 GOSUB1930
1800 IF(W)OR(EE)THENT$(LC)="":RETURN
1810 FORR=0TORR:FORC=0TOKK
1820 INPUT£8,W$:V$(R,C,LC)=MID$(W$,2)
1830 INPUT£8,W$:N$(R,C,LC)=MID$(W$,2)
1840 INPUT£8,C%(R,C,LC):NEXT:NEXT
1850 GOSUB2040:CLOSE8
1860 CLOSE15:PRINTE$"FINISHED":RETURN
1870 PRINTD$E$"NO TITLE"D$
1880 REM WAIT
1890 GETW$:IFW$<>""THEN1890
1900 PRINTP$"PRESS RETURN TO CONTINUE"
1910 GETW$:IFW$<>CHR$(13)THEN1910
1920 PRINTC$:RETURN
```

Program

```
1930 REM D/T
1940 PRINTD$"INSERT DISC/TAPE"D$
1950 W=0:DT=0:GETW$:IFW$<>""THEN1950
1960 PRINTP$"THEN:DISC OR TAPE? T/D"
1970 GETW$:IFW$=""THEN1970
1980 IFW$="T"THENOPEN8,1,SA,T$(LC):GOTO2030
1990 IFW$<>"D"THENW=-1:PRINTC$:RETURN
2000 OPEN15,8,15
2010 IFSA=1THENPRINT£15,"S0:"+T$(LC)
2020 OPEN8,8,8,"0:"+T$(LC)+",S,"+SA$:DT=-1
2030 GOSUB2040:RETURN
2040 REM ERROR CHECK
2050 EE=0:IFDT=-1THEN2080
2060 IF(((ST)AND(63))<>0)THEN2100
2070 RETURN
2080 INPUT£15,A7$,B7$
2090 IFVAL(A7$)<20THENRETURN
2100 CLOSE8:CLOSE15:EE=-1
2110 PRINTC$E$"DISC/TAPE ERROR "A7$
2120 IFDTTHENPRINTD$"WHICH MEANS "B7$D$
2130 GOSUB1880:RETURN
2140 REM PRINT
2150 POKEZ,0:D=0
2160 PRINTC$P$D$"SWITCH PRINTER ON"
2170 GOSUB1880:OPEN4,4:GOSUB2250
2180 PRINT£4,S3$"* MINI-SHEET *"
2190 PRINT£4,S4$"TITLE:"T$(LC)CHR$(13)
2200 FORR=0TORR:PRINT£4,S4$;
2210 PRINT£4,CHR$(65+R)": ";:FORC=0TOKK
2220 PRINT£4,RIGHT$(SP$+V$(R,C,LC),8);" ";
2230 NEXT:PRINT£4:NEXT
2240 GOSUB2250:CLOSE4:RETURN
2250 PRINT£4,S4$;:FORW=1TO38
2260 PRINT£4,"-";:NEXT:PRINT£4:RETURN
55554 STOP
```


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Inside Info

ICPUG is a highly influential organisation and brings many benefits to its members across the whole range of Commodore activity. CCI considered that a regular column from ICPUG would be of interest to many readers. The views expressed by ICPUG may not be those of CCI

Probably the most memorable event during May was the Commodore Show at the Novotel in Hammersmith, and ICPUG had a stand there. Our purpose in being at the show was to meet and talk to our members, for our members to meet the organising Committee and put faces to the names, to provide 'question and answer' sessions in the show theatre, and to recruit new members. In retrospect, the show was a great success. Our stand was always crowded, even though we had nothing to sell. Various celebrities and two Amigas may have helped though.

Jim Butterfield was also at the show as our guest. In case you don't know (and I include Commodore in that category), Jim is just about the greatest expert on all Commodore products in the entire world. Maybe if Commodore UK's current management last more than a month, they'll get to hear of him.

One of the more interesting aspects of these events is picking up rumours, like the relaunch of the 64 in a 128-style housing with a GEM lookalike front end, the 3.5 inch disc drives for 64 and 128 (and 740K of storage!). Chris Kaday reportedly said that Commodore provides a 'credible alternative' to the likes of Amstrad. Curious that, when the price of the 128 has just gone UP fifty quid, and Commodore US have laid off 50% of their workforce.

CCI contributor, Bill Donald made an admirable effort on the Precision Stand to sell me their Amiga drawing package. He would have succeeded too, only like most of us, I don't have an Amiga (sob sob!). I wonder if there will be anything left of Commodore by next year, when I have the money? The nice thing about being an independent group, is that we can say what we like about Commodore (like the reply to one question at the show: 'What do you think of Commodore's current pricing policy?'). The fact remains that without Commodore machines and their inherent bugs and stupid non-standard interfaces, we'd all be lost. Like lemmings we still go out and buy the next machine they produce.

A very important event happened on the Saturday of the show. ICPUG held an Extraordinary General Meeting, at which it was agreed that ICPUG will become registered under the Friendly Societies for limited liability. This has been made necessary by the possibility of our membership exceeding the 3000 mark in the near future, and the obvious increase in club funds and property that would entail. It also puts our minds to rest in the unlikely event that the club goes bust —we won't all have to sell our houses!

ATTENTION ALL PROGRAMMERS!!

You may be an experienced programmer – you may be a beginner. Either way, you may have come across some useful tips which could make life easier for other CCI readers.

Or maybe you have written a program, either in Basic or assembly language, that you feel is worthy of publication.

CCI always welcomes contributions from readers. We will publish any suitable listings or programming advice...and we'll pay you for it!

If you wish to contribute something for publication, we require programs on cassette or disk, together with any additional explanatory information and a CLEAR printout of any listings. (The better the original printout, the better the reproduction in the magazine.)

Please enclose a SAE if you wish to have your program returned to you. Please package disks or cassettes carefully!

The address to send contributions to is:

The Editor,
Commodore Computing International,
Finsbury Business Centre,
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London EC1R ONE

Don't forget...CCI welcomes programs for all Commodore computers – 64, Plus/4, C16, 128 plus the VIC and PET.

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Under Starter's Orders...

Under Starter's Orders

Can your home-micro help you to win a fortune at the races? Probably not, but some of the programs now available for the Commodore 64 can certainly help in the punter's never-ending battle to gain an edge over the bookies.

For an investment of £15, Selec's Coursewinner is probably the most likely package to show a good rate of return. Although Selec claim that their program can be used by casual punters and experts alike, it is the experienced student of the turf who really benefits from Coursewinner. A comprehensive set of data input options is available, relating to such factors as weight, jockey and trainer information, prize money, past form and speed ratings. Once the information for a particular race has been entered, Coursewinner uses advanced statistical techniques to produce a race forecast. This is not simply a tip for one horse to win, but a calculation of winning probability, form rating and profit level for each runner.

Does Selec's package really work in practice? The answer is both yes and not. In a simple analysis of five races, Coursewinner produced one winner (odds 7-2). It doesn't need an expert in higher mathematics to work out that the five bets produced an overall loss (18% after tax).

Now, one of the great features of this program is that it allows the serious punter to attach his own weightings to the different factors. The above analysis was carried out using equal weights — the default situation.

In another four-race analysis using different weightings, Coursewinner predicted winners (odds 6-1, 3-1 and 11-4). As I had actually backed the horses in a multiple bet (Yankee), the profit was very substantial (1340%). Novices, however, please note: winning Yankee bets do not come up very often and certainly can't be relied upon as a means of financing a playboy lifestyle.

I didn't try out the program on a larger sample of races, because it takes ages to read the small print of the Sporting Life and then punch in the data.

Coursewinner is only sold on tape, but simple disk conversion instructions are provided. Selec's package has separate programs for flat and national hunt races, and contains an extensive data base of vital statistics for all British race courses. Documentation is superb.

Starter's Orders

If parting with £15 for a punter's computer doesn't really appeal, you might be interested in Starters Orders at the bargain price of £6. This tape is marketed by the author, David Jackson, of Todmorden, Lancs. Although very basic — in more ways than one — Starters Ordes is easy to use and requires the very minimum of data input. The tape contains instructions and a very useful example.

After feeding information on type of race and name of course, you are asked for details of the last six performances for each horse. The only information actually used in making the final forecast is the sequence of past results. The rest is just window-dressing.

Once the race details are entered (40 horses maximum), one more touch of a button and the predicted finishing order is displayed. At the next press, straight and dual forecasts (if any) are given. A final keystroke produces specific betting advice.

Of the twelve matches top-rated for score-draws on a particular Saturday, only three actually resulted in score-draws. Not exactly impressive, as it was a good week for draws. At least four could have been predicted by chance alone — after all, score-draws are more or less Acts of God, and even insurance companies cannot predict them.

Experience seems to indicate that, on average, 25% of league matches end up as away wins, and 50% as victories for the home team. Poolswinner seems more effective here, and I feel that it is the afficionados of the fixed odds coupon who will really benefit from this program.

At first sight, the results of a six-race survey using Starters Orders seem encouraging. Three wins in six starts. However, it has to be said that the program usually ends up with the low-priced favourite as its best choice. Besides betting poor odds, no-one needs a computer to decide which horse is favourite. Despite the fact that Starters Orders bases its predictions purely on weighted past results, without taking account of going, distance or weight, it is still reasonable value for money.

One criticism of both the above packages is that they do not provide any details of comparative results. A potential buyer might purchase with more confidence if he knew that the program had picked 40% of the winners in a sample of 500 races.

Poolswinner

Anyone who is not really interested in gambling but enjoys a flutter on the Pools, maylike Poolswinner, another Selec product, also £15.

The program comes on tape and is divided into first, the program itself, then a database, and finally, a results file. Although the database contains past information on all of the teams in the four English and three Scottish leagues — 20,000 matches in all — this has been coded into form factors. The annoying consequence of this is that at least two results (Home and Away) need to be entered from current games before Poolswinner will provide future predictions.

The forecasts themselves come as a percentage rating — matches at the top of the score-draw list having the best chance. Options exist for taking into account present league position and, most importantly, for providing a differential weighting for recent past results.

Even though Poolswinner, like its sister-program Coursewinner, can easily be converted to disk operation, the time taken to input results and fixture lists is still considerable. The manufacturers have gone some way towards solving this problem by producing another tape, Fixgen, which contains fixtures for all English and Scottish teams for the current season (only an extra £1.50 if bought with Poolswinner). Fixgen can also be converted to disk.

Armed with the last football results, Pools fans can expect to spend an hour per week inputting the scores of matches already played, and then forecasting next week's results. At least, that's how long it takes me — and I use the disk version. Fixgen alone can take four minutes to load.

Of course, the burning question is — does it work? Do the predictions of score-draws, homes and aways turn out to be any better than random? Or could you do as well by selecting the results with Grandma's hatpin?

Hares Running

Anyone interested in Greyhound Racing will have a hard time finding any software to take the drudgery out of race analysis. As far as I know, only one such program exists. Priced at £6, Hares Running is another unpretentious offering from David Jackson. This tape is best described as adequate. After punching in the name of the dog-track, time and distance of the race — none of which, incidentally, seems to be used in the analysis — details of each dog's best and most recent time are requested. Armed with this information, the computer prints out the forecast finishing order. Specific betting advice — eg Bet on Toy Boy, minor gamble — is given next, and finally comes a recommendation for a straight forecast.

In a three-race sample, Hares Running produced no winners, but it did pick two second places.

Although fairly primitive, I feel that in the right hands this package could prove to be the punter's best bet in terms of value for money.

For every £1 that the bookie takes in he returns some 80p to the turf investor in winnings. Bearing in mind the haphazard nature of some punters' choices — the jockey has the same name as the family dog, or the horse belongs to the Queen — it should not be difficult for the rational expert, with the aid of his home-micro, to make a considerable improvement on the 80% overall average return, even make a small profit. However, once all of the hours of key-bashing are costed in, the financial equation is likely negative once more. Though you may not obtain a better return on your capital than that afforded by the local bank or building society, you might, however, have more fun.

Selections=A League pos=Y Weighting=20

(D3)	BOURNEMTH	NOTTS C	41.7
(SP)	CLYDEBANK	RANGERS	35.51
(S2)	STIRLING	Q OF STH	33.58
(S2)	BERWICK	STENHSMUIR	33.58
(D2)	SHEFF U	HUDDERSFLD	32.75
(S2)	MEADOWBANK	STRANRAER	30.02
(D1)	MAN CITY	MAN UTD	28.74
(D1)	ARSENAL	SHEFF WED	28.74
(D3)	PLYMOUTH	NEWPORT	28.68
(D1)	OXFORD.	LIVERPOOL	28.11
(S1)	ALBION	E STIRLING	27.87
(D4)	TRANMERE	COLCHESTER	27.87

Selections=X League pos=Y Weighting=20

(D3)	PLYMOUTH	NEWPORT	25.49
(D1)	WEST HAM	LEICESTER	23.73
(S2)	ALBION	E STIRLING	22.83
(D4)	TRANMERE	COLCHESTER	22.83
(D3)	BRISTOL R	LINCOLN	22.72
(S1)	MEADOWBANK	STRANRAER	22.53
(D1)	MAN CITY	MAN UTD	22.47
(D1)	ARSENAL	SHEFF WED	22.47
(D2)	BLACKBURN	WIMBLEDON	22.02
(D2)	SHEFF U	HUDDERSFLD	21.65
(D3)	BLACKPOOL	YORK	21.65
(D2)	MIDDLESBRO	NORWICH	21.56

Selections=H League pos=Y Weighting=20

(D1)	NEWCASTLE	WEST BROM	73.95
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Superbase 64 To swop for eversham Micro's "Freeze Frame" cartridge no manuals write for further details to Mr G P Hart, 92 Carfield, Skelmersdale, Lancs, WN8 9DN.

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Choosing the right computer is a good start — but can you find the right software?

At SUPERSOFT we're very conscious of the fact that people who spend several hundred pounds on computer equipment are looking to do rather more than play Space Invaders.

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For home, club or small business use BUSICALC 1 should pay for itself in no time at all; for larger companies we recommend BUSICALC 3, one of the few really valuable programs that you can learn to use in a day.

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INTERDICTOR PILOT is a space flight simulator. Nowadays simulators are widely used to train pilots and astronauts because – to be frank – it's a lot cheaper (and safer) than the real thing!

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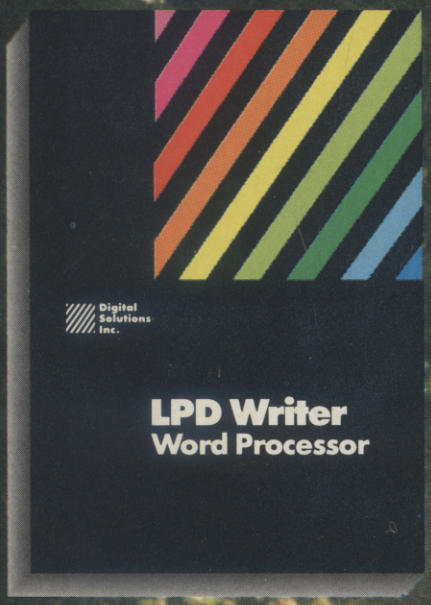
In addition, LPD™ Writer, LPD™ Planner and LPD™ Filer each have their own very special characteristics.



LPD™ WRITER/Word Processor*
multiple documents can be edited at the same time
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on screen headers and footers
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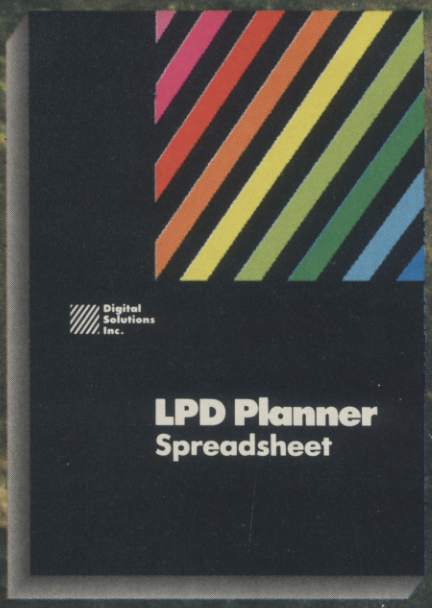
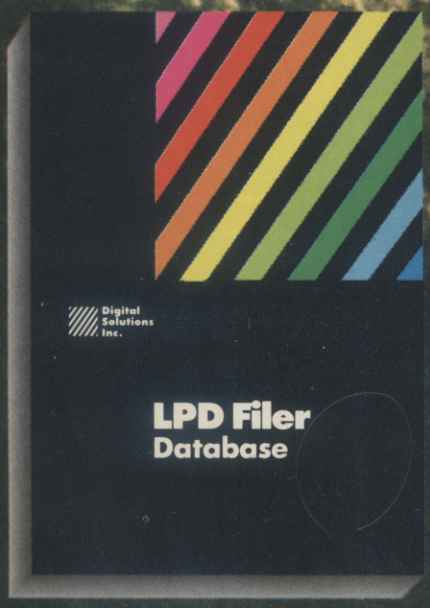


LPD™ PLANNER/Spreadsheet*
multiple spreadsheets can be manipulated at one time
more than one window can be opened on any spread sheet
spreadsheet size: 256 columns by 65,536 rows
sideways printing
cells can be displayed underlined, boldface and italicized
pie charts, line graphs, bar graphs and stacked bar graphs available
variable width columns
horizontal, vertical and "smart" recalculation



LPD™ FILER/Database*
multiple databases can be used at one time
more than one window can be opened on a specific database
multi-page record layouts
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user-definable order of field entries and default field values
calculations during record entry
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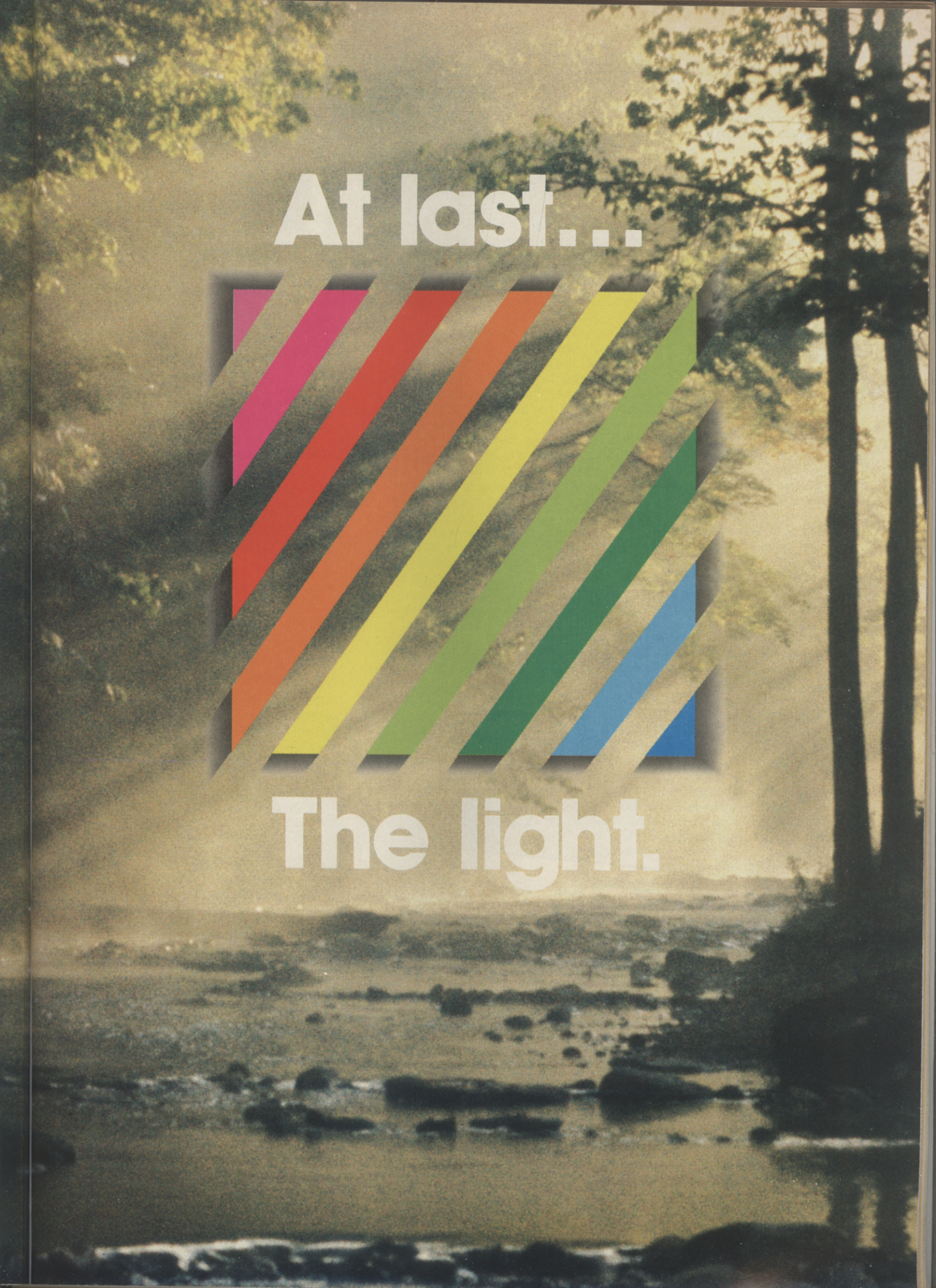

At last...
The light.

Comm gets

The many months of waiting are now over and the AMIGA is freely available for sale outside the U.S. I use the word *'freely'* with some caution since there are reports of shortages although it is unclear whether this is a lack of dealers in some areas or genuine product shortages. So what does our new buyer get exactly for his $1600.00 or so?

I have detailed the prices at the end of this article for the two configurations available. There is nothing between them other than System 2 contains an additional 3.50 inch disk drive. This system is well worth buying in preference to System 1 because having only one drive is restrictive on storage. Besides, slightly over 1.75 MBytes of storage is quite usefull and certainly opens up interesting potential to the user!

The system comes with 256k of user RAM in the system box along with an expansion card containing a further 256k of RAM. Wisely, Commodore have recognised that we want a 512k AMIGA and the expansion card is easily and neatly installed beneath a cover on the front of the system box. The next step is to connect the keyboard which has an expanding coil cable detachable at either end and then the mouse into the controller port on the right hand side of the system box. For those buyers with System 2, the external 3.5 inch drive has its own dedicated connecting cable and this is connected to the rear of the system box.

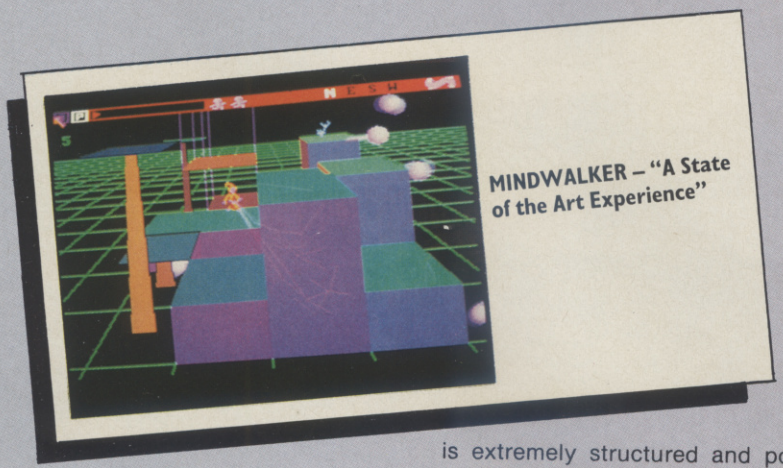
Finally, the 600 by 400 high resolution colour RGB(A) monitor is removed from its voluminous box and connected — the cable performing the audio as well as visual function. Note that the AMIGA comes ready with ALL cables to install the system, the only thing you need are two 13A plugs. After assembly which takes around 10 minutes, you are ready. By now you will have realised part of the reason why the AMIGA commands the price it does — the product simply oozes quality from the overall finish, standard of cables and connectors and not least the manuals.

There are two sections to the substantial ring-binder which forms the User Manual. The first section deals with setting-up and operating the AMIGA — the second part is concerned with the AmigaBASIC. It should be noted that each section is in excess of 100 pages. The section of the manual covering the operation of the AMIGA is very well written and makes full use of screen shots (in colour too!) to put across difficult points. The BASIC manual is rather more terse in style, as appears to befit any programming manual. Nevertheless, no complaints about the standard of typography and production which like the first section, is excellent.

There are four disks supplied with the AMIGA, none of which is copy protected. The first is the KICKSTART disk which contains the operating system, the second disk holds the WORKBENCH. This is the WIMP environment and provides a highly effective and powerful but tractable user interface. I have overheard conversations that INTUITION, the basis of WORKBENCH is based on GEM. Believe me INTUITION runs rings around GEM in both speed and facilities, particularly on the latter. On the third disk there are two rolling demos, one about forthcoming releases from Electronic Arts, the second demo provides displays of dynamic graphic facilities. Finally, the fourth disk contains AmigaBASIC along with AMIGATutor, a very good teaching program which makes full use of the graphics of the AMIGA. The manual gives emphasis and very clear instructions on dealing with your first operation on the AMIGA — backing up to your two system disks and the AmigaBASIC disk.

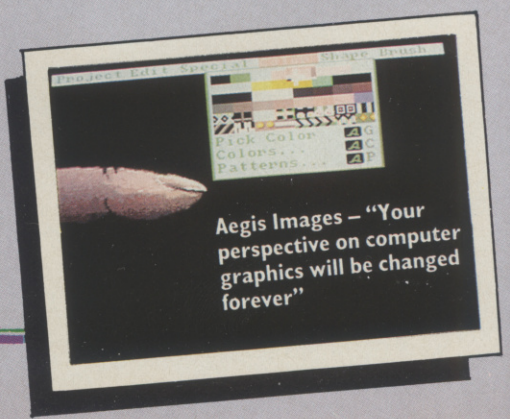
AmigaBASIC was written by MICROSOFT and unless you have used MACINTOSH BASIC or QuickBASIC it is quite unlike any BASIC you have seen. It is extremely structured and powerful lending itself to comparison with PASCAL and COMAL and AmigaBASIC is rather fast — it's benchmarks are breathing down the neck of IBM BasicA. So what, you may say, BasicA is not that quick. Maybe not on an IBM-PC — the comparison I was making was with the **BasicA on the IBM-AT**, a machine costing THREE TIMES THE PRICE of an AMIGA.

Comms – "An extremely comprehensive package"



MINDWALKER – "A State of the Art Experience"

The memory of the AMIGA, that is *usable RAM for YOUR applications* is the full 512k. Note there is no loss of RAM caused by the operating system. This resides further up the processor address space and is kept locked from user intervention in an area termed the *'write protect store'*. The 68000 processor in the AMIGA can adddress 16MB directly and the AMIGA as it stands, is configured to take 8MB of additional RAM on the expansion bus. It is more likely that the machine could take 15MB although the power requirements would be quite high — you are looking at TTL supply requirements in excess of 20 amps for 8MB, therefore component cooling can become a problem if this 8MB consists of NMOS material — it rather depends very much on the ambient operating temperature. Hardware fans



Aegis Images – "Your perspective on computer graphics will be changed forever"

mmodore s it right!

will be pleased to learn that the 96 pin expansion bus on the side of the AMIGA gives FULL ACCESS to all of the internal machine buses and is to the MOTOROLA VME specification complete with AUTOCONFIG.

After switching on the AMIGA an icon or image appears on the screen which is a hand-held disk marked 'KICKSTART' accompanied by a little musical tune. This is the cue to the user to insert the KICKSTART (the operating system) disk — loading takes place in less than 15 seconds. Another icon then appears identical to the first except that the music is missing and the name is different. This time the disk is marked 'WORKBENCH' and the loading pattern follows the same course in terms of time. For dedicated applications, the WORKBENCH environment may be superfluous and rather than load the WORKBENCH disk you can at this point, put in your application disk. You will probably find that most currently available software (other than recreational material) runs under the WORKBENCH anyway, although the option not to use WORKBENCH can save memory.

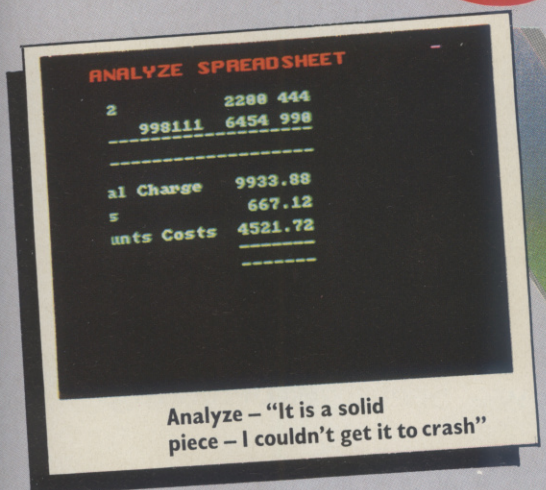
At this point after loading WORKBENCH you should have facing you a blue screen along with an icon in the top right hand corner of the screen. The icon represents a disk and if you have more than one drive with a disk inserted, further icons will be present. The icon is named underneath with the name of the disk or 'volume' in AmigaDOS nomenclature. Along the top of the screen a running total of free user memory is displayed. Manipulations from this point are rather tedious to detail in print. The operations are considerably quicker to actually execute than to describe. I would strongly urge readers to view the AMIGA in the hands of someone who knows the machine and the software it is running to gain a more positive idea.

The graphic abilities of a personal computer are probably the easiest to assess since we can all use an ultra high-precision instrument named the human eye. Personal computer graphics have come a long way from the rudimentary shapes employed in the early recreational software. As time went by, objects and shapes became more closely defined until finally, the arrival of colour. It was undoubtedly colour that brought *'computers to the masses'* although the number of colours available was restricted in terms of the technology and price the consumer was prepared to pay.

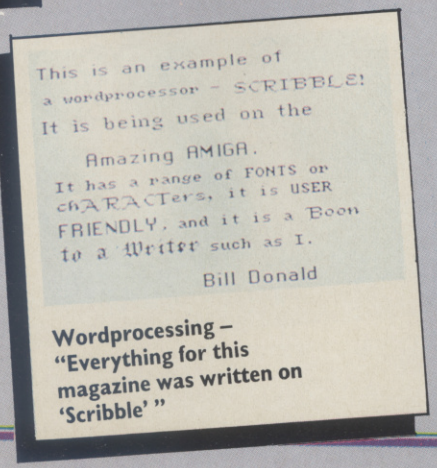
One of the unquestioned strengths of the AMIGA is its graphic abilities. Not content with being fast — the range of facilities available make this machine a truly stunning performer. Couple this with the purchase costs of the system and the AMIGA has no real peers. But what are *fast* graphics, what does this mean to someone who has not experienced the AMIGA? In simple terms, the AMIGA has hardware that is fast enough to freeze, capture and then store video frames from either television or a video recorder. Graphs and charts are drawn do quickly as to be instantaneous. The use of multiple screens each of which can be at different resolutions and each screen can contain multiple windows all under the direct control of the user provides a rich environment for effective and creative work at any level of requirement.

The AMIGA has several quantitative levels of colour depending on the resolution demanded, however most applications software produced for the AMIGA to date provide 32 colours, twice that available in the PC market. Notwithstanding the fact that these colours can be selected from a choice of *palette* of over 4,000 colours, the user should have few if any difficulties in determining their exact requirements.

The range of software specifically for graphic applications is growing daily. The main source is the USA, because the machine has been in software developers hands for at least 12 months. Naturally European developers have some way to go to catch up. The standard user complaint of a software *famine* for a new machine was certainly true on the USA launch of the AMIGA. The benefit we have outside the USA is that software is available, your problem as a new purchaser is *knowing where to buy it.* Some of the graphics packages that are currently available are reviewed in depth in this issue.



Analyze – "It is a solid piece – I couldn't get it to crash"



Wordprocessing – "Everything for this magazine was written on 'Scribble' "

Continued

Amiga's incredible graphics

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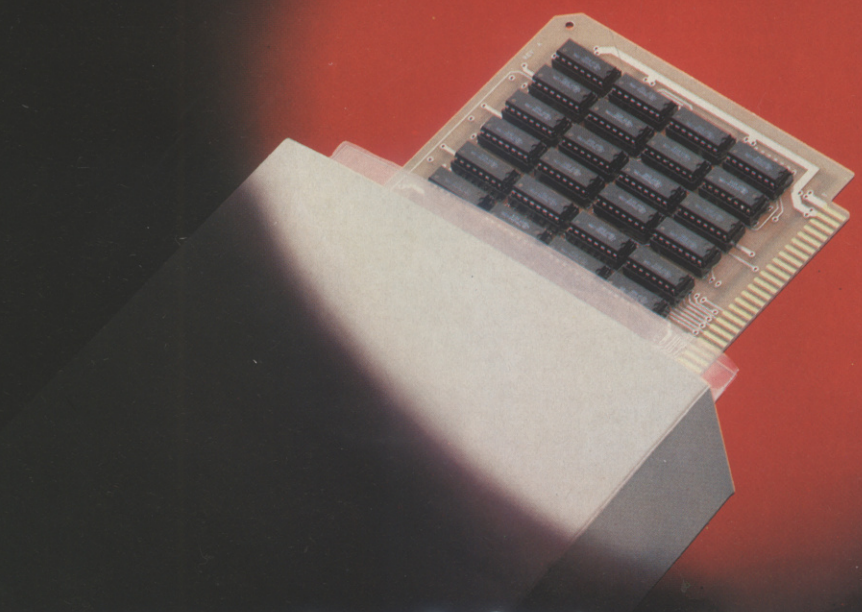
So what are the benefits to buying an AMIGA? My answers would be as follows:—

1. The AMIGA is easy to use through the medium of it's graphical user interface WORKBENCH. This eliminates the tedious and time-consuming business of having to learn operating system command syntax, etc.

   Some time ago as an experiment I persuaded some complete computer novices to try my own AMIGA using the excellent AMIGA Tutor software. There was no involvement with myself other than to show them how to insert a disk. The average learning period in terms of the WORKBENCH environment was *less than one hour*. Some of these people professed to be anti-computer before starting and afterwards reported feeling much more confident and *less intimidated* by computers.
2. The graphics facilities offered by the machine put it at the forefront of personal computer ability. Video interaction, real-time animation and multiple resolutions are just some of the machine's features. Fast and comprehensive are the only two adjectives needed to fully describe these, the rest must be judged with your own eyes.
3. The sound facilities are far beyond the conventional tone-generator circuits found in conventional personal computers. With a frequency response range of 14kHz and the ability to digitise sound and speech the AMIGA's hardware on this topic are clearly both advanced and powerful. Not least, the clarity and quality of the sound in true stereo have to be heard to be appreciated.
4. The narrator device allows direct translation of on-screen text into speech, another first amongst personal computers at this level. The control afforded to the user without the need for advanced programming extends to selection of male/female, monotone/inflection and rate of delivery/pitch parameters. The process can be further enhanced by the use of phonemes to reproduce foreign languages and accurate dialectic speech in English.
5. The AMIGA is an open-architecture computer unlike other 68000 based machines from Atari and Apple. This means that a purchaser is not forever tied to the manufacturer's own peripherals and thus given freedom of choice. The other major benefit to users is that the main memory of the AMIGA is not permanently fixed in size and can be expanded by the dictates of the purchaser. A closed-architecture machine is not designed to be expanded by the user, a 512k MAC remains a 512k MAC until it dies.
6. All facets of the AMIGA's hardware and system software are well documented and this documentation is freely available now to existing and prospective purchasers at a *realistic cost*. The manufacturer gives unmatched support to registered software developers through the medium of dedicated bulletin boards, regular technical manual updates and a specialised technical reference journal acknowledged to be both accurate and informative.
7. The AMIGA offers true multi-tasking to the user through its advanced operating system which is founded on a system that has had many years of practical multi-tasking multi-user experience. The robustness and security of this system advances the AMIGA beyond any other so-called 'multi-tasking' system found at this level of personal computers. The multi-tasking facility allows 8 processes to operate simultaneously.
8. The storage media used by the AMIGA is not some obscure size that is difficult to obtain or suffers from excessive overpricing by dealers. The 3.50 inch disk format offers both high capacity and physical security to user data. The wisdom of selecting such a media vehicle is confirmed by the number of computer manufacturers now moving over to this size of disk such as IBM.

Continued

Open Up The Power!



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Animator – "The type of software that cries out for the user to start doing something"

9. The AMIGA *offers IBM-PC compatibility* through two routes — hardware and software emulation. The primary function of the AMIGA is to establish it's own dedicated software base which in realistic terms can take some time. It was designed as an AMIGA first, 'PC clone mentality' second. Users who have to maintain a library of PC-DOS or MS-DOS software or alternatively need to keep substantial volumes of data under this format can utilise the hardware or software emulation of a PC-DOS or MS-DOS environment. The degree of emulation is tied to limitations of both the IBM copyright of the ROM BIOS and the hardware itself, when all said and done the AMIGA is a 68000 machine. However, as a further demonstration of the inherent strength that lies in the AMIGA, the machine is capable of reading GCR disks in addition to the standard MFM format of AmigaDOS. Astute readers will realise the significance of this in terms of both Commodore and Apple computers. For the benefit of those who do not appreciate what this means — *the AMIGA is capable of reading and writing Apple and Commodore disk formats.* When both this and PC-DOS capability are realised, perhaps readers can appreciate the formidable power the AMIGA offers to purchasers. *There is simply no other machine available that can provide all of these functions* — unless of course you wish to start massive rebuilding of the hardware.

It is now more than eight months since I took delivery of my AMIGA. The system has been in use for many thousands of hours.

It is a North American software developers specification — meaning that it is designed for a 60Hz (plus or minus 10%) supply frequency at 115V — I take care of the voltage on a transformer, the frequency I can do nothing about thus the system (including the monitor) runs way below the recommended frequency.

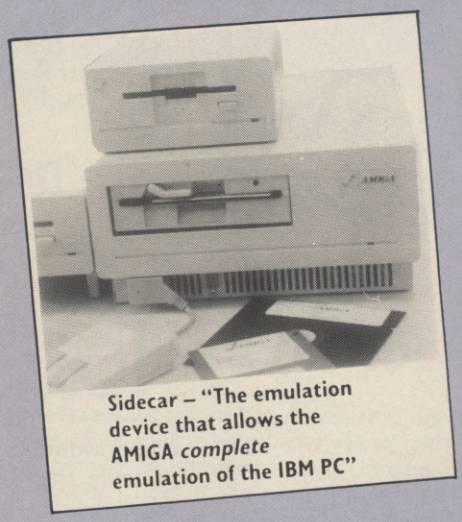
It has been transported from my home in Kent for demonstration purposes at two major exhibitions in London.

It has also been loaned several times to a major software house for intensive use in software development.

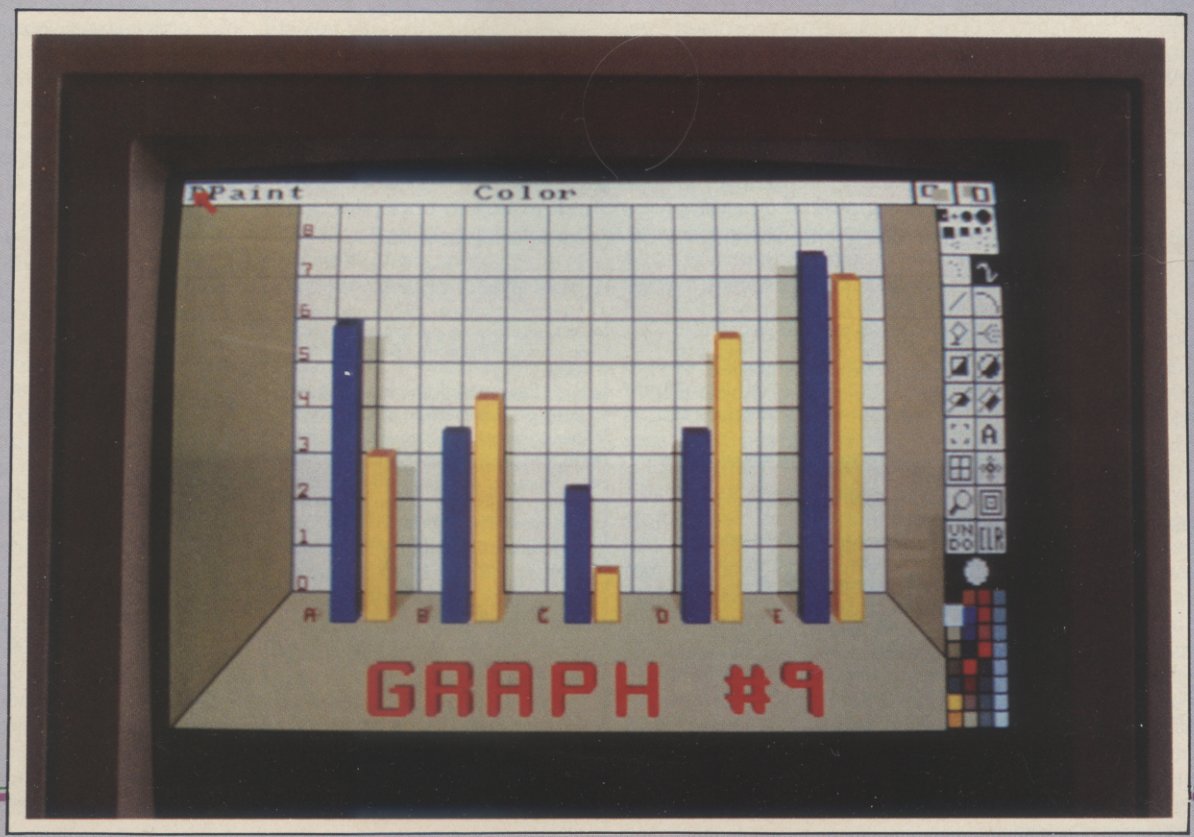
It has also been transported around Kent for demonstration to potential dealers and friends.

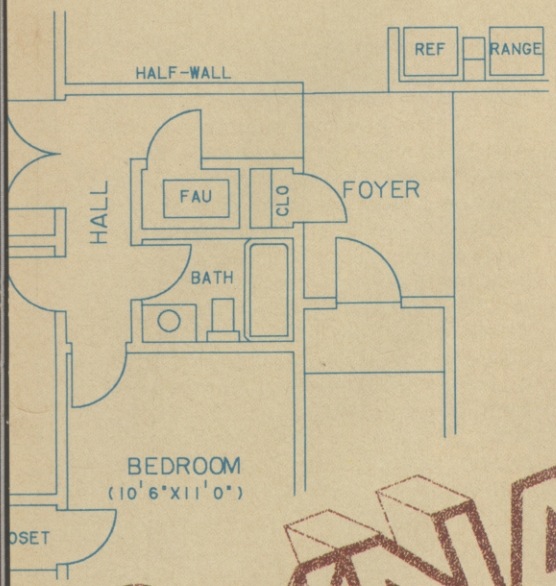
During this time my AMIGA has performed flawlessly. I rest my case on the question of reliability of the AMIGA.

OK, those are my reasons why you can safely buy an AMIGA now. Can you now give me reasons why I was wrong to buy it? The key that summarises the AMIGA to me is the word **FACILITIES**. Never before have so many facilities been packaged into an individual personal computer. I sometimes smile wryly when I hear uninformed comparisons made between the Atari ST range and the AMIGA. I reflect on the slogan 'Power without the price!' employed to market the ST. The slogan seems to be no longer used, maybe Atari heard my reply — compared to the AMIGA the Atari ST range is 'Price without the power!' surely? The affirmative 'tick' logo says it all. There is no doubt about it. This time Commodore got it right.



Sidecar – "The emulation device that allows the AMIGA *complete* emulation of the IBM PC"





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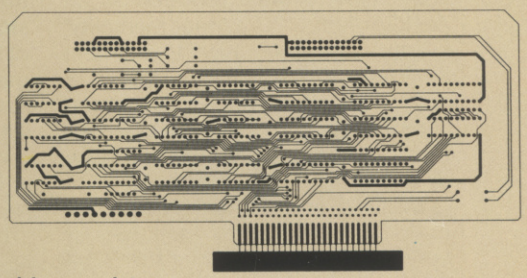
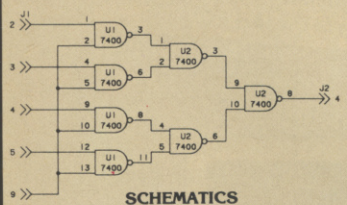
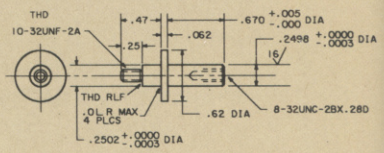


Emerging from years of successful problem solving applications in piping, and electronics for the aerospace industry, DYNAMIC CAD has brought a highly advanced and powerful CAD system together with today's most dynamic and versatile micro-computer, the Amiga. DYNAMIC CAD takes full advantage of Amiga's extensive capabilities with color, multiple modes of resolution, mouse functions, and easily accessible pull-down menus.

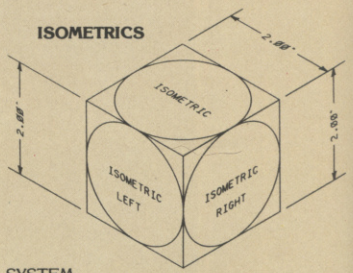
This is not some promised "vapor-ware." DYNAMIC CAD exists now and comes to the Amiga with a proven track record. The time and money-saving applications of DYNAMIC CAD for engineers and architects are truly astounding. Here is an advanced, 2-D drafting system with isometric capabilities that can be combined with many models of printers, plotters, and digitizers. In getting started you'll have the support of an extensive manual written in understandable English along with working examples as tutorial lessons.



SCHEMATICS



MECHANICAL DRAFTING



ISOMETRICS

SIGNAL NAME	COMP NAME	PIN NUMB	SOURCE	TYPE COMP
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S0001	U1	1		7400
S0002	J1	3	*	CON
S0002	U1	4		7400
S0003	J1	4	*	CON
S0003	U1	9		7400
S0004	J1	5	*	CON
S0004	U1	12		7400
S0005	J1	9	*	CON
S0005	U1	2		7400
S0005	U1	5		7400
S0005	U1	10		7400
S0005	U1	13		7400
S0006	U1	3	*	7400
S0006	U2	1		7400
S0007	U1	6	*	7400
S0007	U2	2		7400
S0008	U1	8	*	7400
S0008	U2	4		7400
S0009	U1	11	*	7400
S0009	U2	5		7400
S0010	U2	3	*	7400
S0010	U2	9		7400
S0011	U2	6	*	7400
S0011	U2	10		7400
S0012	U2	8	*	7400
S0012	J2	4		CON

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Micro-Illusions

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Easyl Does It

Anakin Research Inc., of Toronto, Canada, have released EASYL, an Amiga tool for entering traced or original designs directly to the Amiga. EASYL works with popular packages such as Aegis Images or Electronic Arts' Deluxe Paint, or as a product on its own. EASYL is a pressure-sensitive digitizer which easily accommodates ordinary sheets of paper on an 8.5 inch by 13 inch surface with a resolution of 1024 by 1024 pixels.

The EASYL software allows easy access to all Amiga resolution levels from 320 by 200 to 640 by 400. It can be used by lefthanders or righthanders. Images created with EASYL software are in IFF format for easy interchange with other systems. Source is included for the software, facilitating special applications such as image processing.

Contact:

Anakin Research Inc.,
100 Westmore Drive,
Unit 11C, Rexdale,
Ontario, Canada M9V 5C3.

AMIGA Accounts

Three new accounting products are being launched for the Commodore Amiga.They are the new Total Office from Total Office Ltd, Positive Financial Accounting System from Positive Software Ltd and Impacct Integrated Accounting from Eidersoft.

Bringing accounting facilities to all types of business and utilising the multi-tasking capabilities of the Commodore Amiga, they are all easy to use and suitable for a wide range of applications from sales, purchase and general ledger to stock control and sales and purchase order entry.

Developed for the Commodore Amiga, the Total Office fully integrated accounts system comprises spreadsheet, nominal ledger accounting, cash book accounting, purchase ledger, accounts receivable and billing, and looks ideal for both low and high end accounting. Costing about £150, optional extras include a stock control system.

The highly popular Positive Financial Accounting System, previously available on the Apricot Xen and IBM PCs and compatibles, has now been specially configured for the Commodore Amiga and is designed for high end accounting applications. Offering standalone sales ledger, purchase ledger, payroll, stock control and general ledger facilities, this modular system also comprises invoicing, sales and purchase order entry, sales analysis and parts exposure and costs £285.

Impacct Integrated Accounting system contains sales, purchase and general ledgers, and stock control together with both sales and purchasing order processing. Written in Aztec C, this user friendly modular program also handles multi-languages and multi-currencies. Comprising five modules, each module costs £99.

Speak Easy

● **USA and Japan to collaborate on telephone-based translation system.** Japan and US are currently discussing a joint R&D effort to build an automated interpreting telephone system based on artificial intelligence technology.

MCS 256k Buffer

Leading British printer buffer manufacturer, Micro Control Systems (MCS), has broken new ground in terms of price/performance with the launch of a 256K internal buffer for Epson printers. Now available in both parallel and serial formats, the new model not only has double the memory capacity of Epson's own boards, but costs just £189, some 30% below the old list price for MCS's 128K buffer. In turn, the 128K board has dropped to an even more affordable £149.

Contact: Micro Control Systems, Eletron House, Bridge Street, Sandiacre, Nottingham NG10 5BA. Telephone: (0602) 391204.

Good Citizen
Citizen Printer Europe's President Morio Kizawa presents the Mayor of Hillingdon with 20 Citizen printers for use in local schools.

Absoft's AC/Fortran

Absoft has brought out AC/Fortran for the Amiga. It is an ANSI FORTRAN 77 compiler with debugger designed to run main frame programs on the Amiga. To facilitate development of large programs on a standard 256K machine, AC/FORTRAN has been designed as a disk based compiler requiring only 46K of RAM. Additional development tools include support of overlays, and virtual arrays as wel as dynamic linking of programs at runtime. The compiler comes complete with a full screen source level symbolic debugger, linker, library manager, IEEE single and double precision floating point software, complex number support, VAX extensions, and has no limitation on code or data size. Also included is the ability to interface with C, and option to generate assembler source, full interface into the Amiga ROM routines and a 300 page user reference manual. Available now, $295.

For Turbo Amiga users, Absoft has announced a version of their professional series FORTRAN 77 compiler that includes all of the AC/FORTRAN features as well as full support for CSA's MC68O20/MC68881 Turbo board. $495.

Contact: Absoft, 4268 N. Woodward, Royal Oak, MI 48072. (313) 549-7111. Telex: 235608.

AMIGA Distributor

Bradford-based distributors Eltec Computers have signed an agreement with Commodore to be one of only two educational suppliers nationwide for the new Amiga machine and other Commodore consumer products.

Eltec will fulfil a dual role for Commodore, acting as distributors to both the commercial arena and the field of education - an area where Eltec have specialised for some years.

Tom Hart, National Sales Manager for Commodore was positive about the choice of the rapidly-expanding Eltec Computers as Commodore's northern distributors. "Eltec enjoy a very good reputation in the trade for professional conduct and distribution expertise," he commented. "Coupled with their existing dealer network and strength in the education arena, I am confident that our two companies will enjoy a mutually beneficial relationship."

Eltec will be distributing all Commodore's current range, including the music keyboard recently launched onto the UK market for use with the 64 and 128 personal computers.

Intelligent Autoloaders

A range of Intelligent Diskette Autoloaders — designed for high speed, unattended diskette duplication — is now available from FORMASTER, UK leader in software duplication technology.

The Autoloaders will format, copy and verify diskettes then automatically place them in appropriate 'accept' or 'reject' output bins. Electronic sensors alert the operator when a bin is empty or full. Diskettes can then be removed without stopping operation.

By precisely placing each bit close to its ideal location, 'High Definition recording technology' is claimed actually to improve the quality of the disk over the original. It dramatically reduces peak-shift or bit crowding by over 35%, lowering the number of error reads.

Changing diskettes at twice the speed of previous loaders, the new units can reduce copy time by up to 8%.

The two machines in the range allows for 3½ inch and 5¼ inch disk drive types, including the high density 96 TPI (AT) type. Hardware and software interfaces are available for host computers or for the FORMASTER Series One Controller.

Price: *£5900 (+ VAT).*

Contact: *Formaster, Tel: 0753 820981.*

Digital Range

Digital Solutions have launched some interesting AMIGA packages designed to run alone or integrate. The three packages, LPD Write, Planner and Files, have a unique 'link' transfer proceedure, use 'windows' and allow 'zooming'. The LPD range is being marketed as powerful software that is simple to use and increases productivity.

(Digital Solutions' LPD range will be reviewed in the next issue of AMIGA USER.)

Free Disks

Compumart, the Loughborough based blank disk mail order company are celebrating their birthday with some amazing offers on blank disks.

With 5.25" disks they are giving away 2 free disks with every 10 purchased, they have also reduced the price of 3.5" disks by over 20%.

Compumart told us: "With our group buying power we have managed to force the price of disks down. Our company policy is to pass any price reductions straight onto the end user, so we're not only giving 2 free floppy disks away with every 10 purchased, but we've slashed the price of 3.5" Microdisks too.

Compumart have just moved into a new warehouse, their new address is Unit 8, Falcon Street, Loughborough, Leics. LE11 1EH. Existing 'phone numbers, (0509) 262259/233893 still apply.

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AMIGA DATABASE

Taurus Impex are releasing Acquisition an interestingly original Database for the Amiga.

Acquisition is a database management system utilising the power and innovation that the Amiga has to offer. It incorporates a mapped filing system organised around paths, which allow both relational and hierarchical filing structures, or a combination of features of both. Acquisition provides mutlitasked access to the filing system, handling up to 16 files in one application. Full use of windows, icons and mouse-driven control are provided. System design is two-tiered between file structure and applications and report systems for manipulation of data. Both tiers can be designed either in the Acquisition editors which can be operated solely by use of the mouse and displayed menus if required, or by writing direct to Acom, the Acquisition database language, which contains over 250 different functions and can be translated into C, Pascal or Basic. Acquisition provides a fully-integrated environment on the Amiga which can communicate with other packages on the system and read and write information to and from them. A variety of data and field formats are supported and Acquisition can store images as data as well as text and numerics. The effective limits of a database's size and complexity are set by the machine and not by Acquistion, the flexible and open-ended environment is supported by a clear command structure, enabling the non-programmer to develop a complex system in a matter of hours. The database can be amended and enlarged at any time without loss of data. A full review of Acquisition will appear in the next issue of AMIGA USER

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LEADING THE FIELD IN 68000 SYSTEMS SOFTWARE

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Precision Software

No follower of UK software houses can have overlooked the progress of one of our top rated suppliers to the Commodore market, Precision Software.

Founded in 1980 by John Tranmer, Precision actually began life as a software consultancy specialising in Data General minicomputer packages. Only in 1982 did the advent of the original Superscript at that year's PET show give Precision a window into the consumer market. Later the same year the company struck a deal with Commodore that made Easy Script the standard word processor for the Commodore 64, all over the world. Assured of success and recognition, Precision embarked on their most ambitious consumer product: Superbase 64.

Here was the program that would finally establish Precision's reputation as a leading Commodore publisher. Few people had realised that the Commodore 64 would sell in millions, extending significant computing power into large new market sectors. None saw as clearly as Simon Tranmer, Precision's gifted chief designer, that among all the new users would be a large group desperate for a program to make the 64 a serious proposition as a working computer.

Superbase was born in August 1983 and immediately acclaimed as by far the best database manager for the 64. Little else has come close in terms of power and flexibility, especially in the area of programming. Superbase 64 with versions for the 8096, 700 series and most recently the Commodore 128 is still top choice as the standard for heavy duty business use on those machines.

Most notable is Precision's success in shoehorning both Superbase and Superscript, their much praised word processor, into the 128-D's memory at the same time. The co-resident combination of programmable database and word processor gives the 128-D formidable capabilities as a business system, as users all over the world, some 600,000 of them, have affirmed by voting with their wallets. Translated into eight languages, the 'Superbase-Superscript' system is a remarkable example of innovative, world-class British software technology.

Now if you go down to Precision's sales showroom in Surrey, you will see the company has moved to another stage in its progress. You will see the new Superbase, running, of course, on the Commodore Amiga.

It is as Dr Bruce Hunt, Precision's Marketing Manager is at pains to point out, a completely new program. 'The only thing that is the same is the name. We've redesigned from the ground up, writing in 'C', to give ourselves portability for the future. At the heart of the program is a 'no-limits philosophy' - we just want to take away the burden of maximum record sizes, limitations on open files and indexes, tedious concerns that should be consigned to the past.' It's a friendly and handsome looking beast too, with a panoply of pull-down menus and multiple windows, and a clever use of symbolic controls borrowed from familiar tape-recorder conventions.

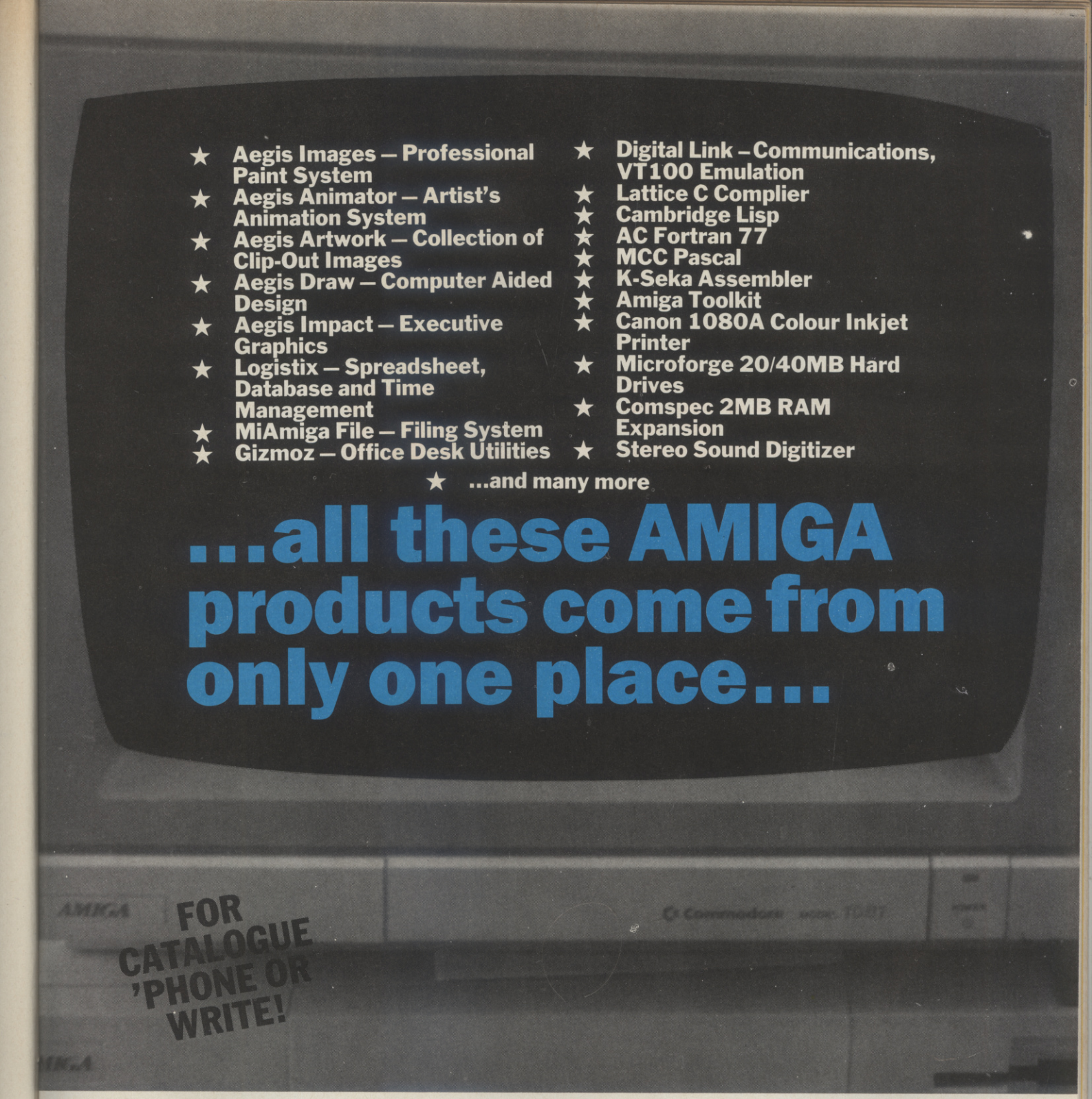
Superbase Amiga, in all its relational glory, will be out at the end of the summer. John Tranmer, fresh from visiting Precision's USA distributors, expects substantial orders from existing Superbase customers in North America, as well as Amiga users who are crying out for a major league database. Sales Director Nigel Lovett-Turner is equally positive about Europe and the rest of the world, though he won't be drawn on deals already in the bag.

AMIGA Development

Back in the UK, Precision is moving into software distribution. In an astute move, they have acquired the rights to the family of Amiga graphics products from Aegis Development. The leading produce is Animator, a unique animation design system. Images, a professional level paint program, and Draw, a comprehensive CAD system, complete the current range. Impact, a spectacular graphing product, is due for release in a few weeks. The Logistix integrated spreadsheet, database, graphing and time management system is also available in Precision's Amiga software line-up. Together with 20 and 40 Mb hard disk drives, 2 Mb RAM expansion, and Canon colour inkjet printers, Precision's range of Amiga software gives the Amiga resounding credibility as a creative and productive business system.

'Amiga and 128 software and hardware is not the sort of thing you buy without a demonstration. We're encouraging customers to ring in for details and then follow up with a visit to the showroom. Most items are available now from stock, so there won't be any wasted journeys.'

In over four years as a software publisher, Precision has seen its share of ups and downs. The volatility of the market place has seen to that. 'You can't second-guess every twist and turn in fashion at this end of the industry,' observes John Tranmer, 'product life cycles can be ridiculously short. But with the new Superbase we have a powerful database manger we can move onto new machines as they appear. That gives us a chance to build on what we've done.' There are few enough British programs capable of competing in global markets, and Superbase has got to be judged on its record — which makes a world leader. Precision is a company to watch.



Precision Software is an established leader in the serious Commodore Market for the whole range from C64 up to the Amiga.

Precision is Superscript and Superbase lead the way to new standards and today continue to be regarded as unrivalled quality business packages.

Precision software has now progressed to become the outstanding supplier of software and peripherals for the AMIGA. It is also a major sales point for the purchase of AMIGA and C128D computers.

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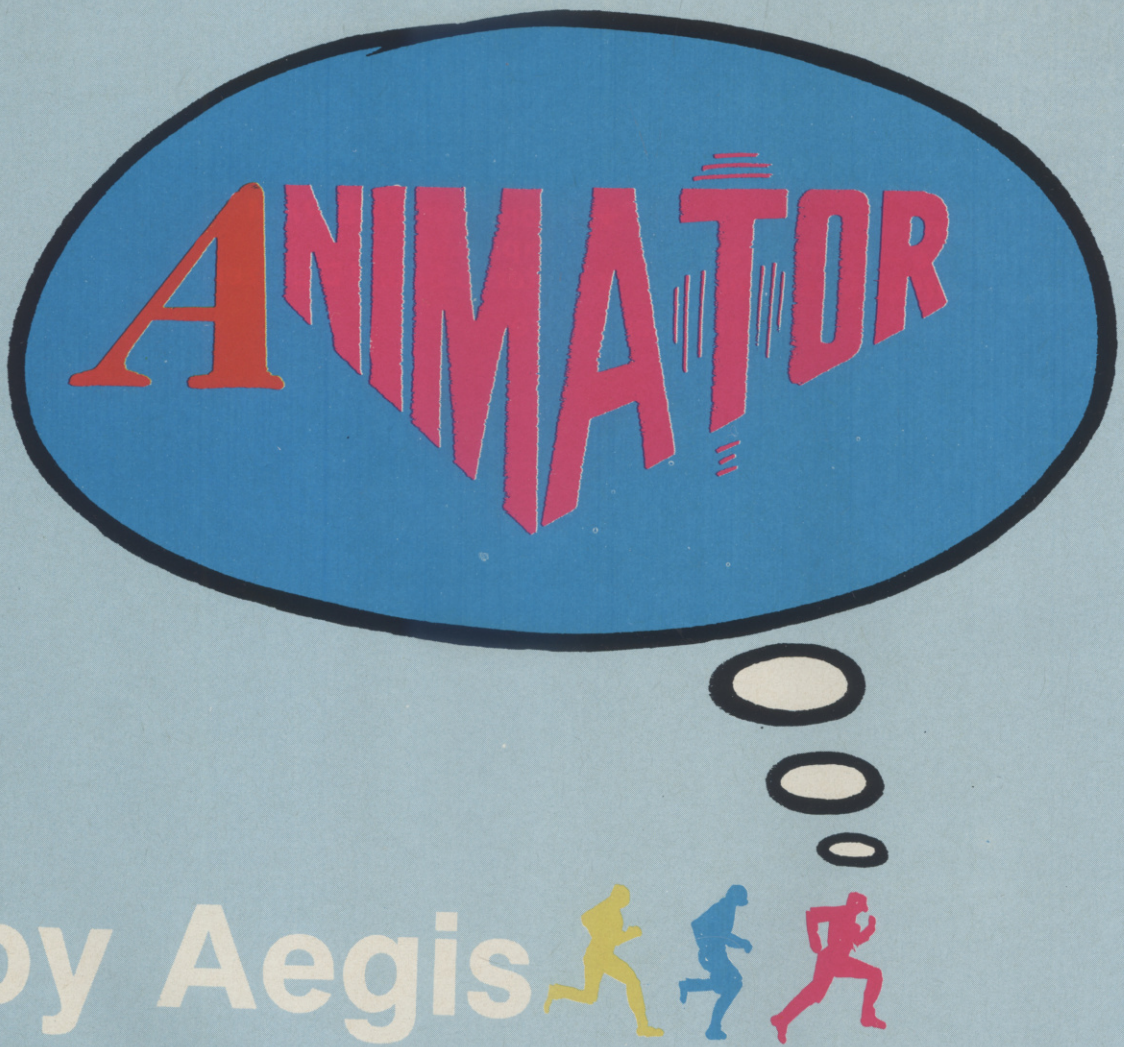


by Aegis

THE AMIGA is the first personal computer to feature true animation — that is direct control over the movement and shape of the components of a user-defined object in addition to the object itself. AEGIS ANIMATOR allows the user to define objects in 32 colours from the master palette of 4,096 and then change the object's size, shape or colour. The object can be dragged, rotated or a path plotted for it anywhere on the screen. The user may create up to nine script or event-sequences and cut or splice these scripts into a storyboard. Backdrops to the animation events can be loaded in — the backdrops having been previously created using AEGIS IMAGES, GRAPHICRAFT or DELUXE PAINT or another paint/draw package that supports IFF file structures (see AEGIS IMAGES review in this issue for more details of IFF FILES.Ed.).

ANIMATOR operates by using the concept of 'tweening' to provide metamorphic animation. Each 'tween' is a segment of time and by altering the shape or position of the object at the start and finish of each segment an animation sequence is built up. The time element of each tween can be varied by the user and may be a unique value. This is different from the other more well known type of animation where the artist produces a frame for each individual sequence. ANIMATOR cuts down considerably on this amount of work since basically all the user has to do is define the beginning and end points in terms of the objects shape, position or colour.

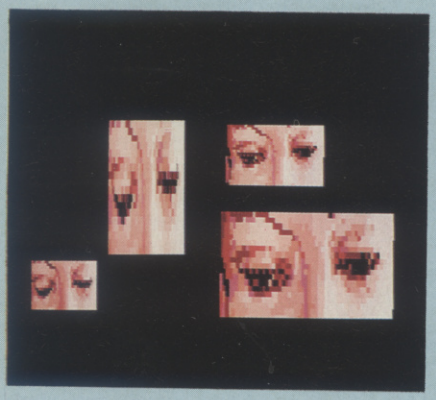
The product is packaged in much the same form as AEGIS IMAGES — an unprotected disk and 100 page book serving as the manual. In fact it is probably wiser to purchase ANIMATOR package as opposed to IMAGES since the latter is supplied together with ANIMATOR. At this point I must stress that animation is extremely memory consuming. So much so that even on 512k of RAM I found ANIMATOR to be pushing for more. It would be a wise move to give consideration to expanding the memory of the AMIGA if you intended purchasing ANIMATOR for professional purposes. The manufacturer has made allowances for running out of memory by incorporating a safety net employing the Alerts system within INTUITION. This operates by warning the user that memory is running out and gives the option of switching out certain facilities of ANIMATOR. If this is still not enough then ANIMATOR initiates a cycle of saving script files back to the disk before anything dramatic happens,

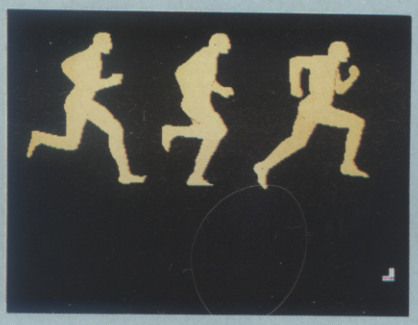
an excellent and intelligent use of the system software facilities within the AMIGA. The operating environment of ANIMATOR follows much the same pattern as IMAGES and uses the menu and window structure of the Workbench. It is worth noting that on a 512k machine you can save on precious memory by running ANIMATOR from the CLI (command line interface) or AmigaDOS level. The point I am making here is that AmigaDOS does use some parts of INTUITION, the underlying structure of the Workbench just in case you were not aware of this fact.

The first group on the menu is concerned with the saving and loading of files and is titled *Project*. Happily the magic command *undo* was also present — this eliminates the effects of the last user instruction within ANIMATOR. Data files are termed scripts, a sensible name since we are dealing with techniques from an established industry. There are other types of file which are distinguished between by the usual AmigaDOS technique of suffixes. Thus backdrops become *.pic* files colour palette tables are *.col* and so on. Scripts are read into the *storyboard* which is rather like a memo pad containing the details of the animatory sequence. ANIMATOR allows for 9 storyboards and the user can cut and paste between each. This is obviously a flexible and powerful technique since users can build up libraries of routines rather like professional computer programmers.

The *Project* section also contains the *time* and *color* controls. The latter operates in much the same way as IMAGES albeit on a rather more restricted manner. For instance the number of options are fewer, although do not let this distract you from the main purpose of this application — namely animation. Highly detailed images are created using IMAGES and then components of these images are then taken by ANIMATOR for work-up into the animation sequence. The *color* facility within ANIMATOR is there essentially to put a final polish on the animatory object. The *time* option sets the parameters for the *local* speed and *global* speed.

In animation different components of the object move at different speeds. For example, consider a scene where a man walks across the screen — his legs will be moving at a different rate of speed compared to his swinging arms. There are three time variables here — two *local* parameters viz. the object's arms and legs and the *global* parameter which controls the speed at which the object traverses the display. Take another example, this time from presentation graphics — a box appears in the centre of the display and proceeds to enlarge itself. During this enlargement process which could represent a company or product's growth, the box spawns another object — for example a circle representing a satellite product or company and it too proceeds to enlarge or grow, this time at a different rate. Only two time parameters here — the major object being the box and the minor object consisting of the circle, the former controlling the *global* variable, the latter running under the *local* time variable. Both examples are crude and possibly trivial but I hope you have grasped the point over the difference between *global* and *local* speeds. The final two selections in the Project menu are *status* and *exit*. The former is quite important since it is advisable to keep an eye on the memory remaining if you are running ANIMATOR on a 512k machine.





The next part of the menu bar is the *Create* section. There are a number of preset shapes present in this selection such as stars and circles — the prime choice here is usually the polygon option. This allows the user to draw an object free-hand with an option to produce either an outline or fill, that is filled with the same colour as selected from the colour palette. Further down the *Create* section the useful *clone* option exists to increase productivity whilst the *destroy* function provides an escape for any errors made during creation. There are no limits on the number of clones that may be produced.

We now shift attention to the real crux of ANIMATOR, the *Move* selection. This group controls the different methods of moving objects around on the screen such as dragging, moving, rotating or resizing. There are three types of object rotation within ANIMATOR — around the X-axis, Y-axis and in the plane. Note that the centre of rotation does not have to exist within the object itself, it may be defined anywhere on the screen — leading to some interesting and unusual effects. Object resizing has already been discussed and there is sufficient intelligence within ANIMATOR to be able to distinguish between overlapping objects after a resize has taken place. *Morph* is probably the cleverest part of the whole package since this allows redefinition of an object's shape. For example, consider a circle — calling the *morph* function will create a series of points around the circle. By engaging the points using the mouse controls the circle is pulled out of shape. I suppose the nearest I can describe is *visual plasta cine* or *computerised working in wax*!

The two remaining functions on the menu bar are *Time* and *Color*. Note that *time* in this context is different from the function with the same name in the *Projects* section. *Time* controls such matters as moving to a specific tween, looking at the beginning or end of a tween, replaying some or all of, or looping the tweens in an animation sequence or *script*. The aptly named *ghost mode* is used to describe the entire animation in outline form. For example, backdrop windows would be seen sliding into the display, the mask frames could be viewed to endure that their placement is correct on a backdrop frame. You will find that *ghost mode* is used quite extensively during the creation cycle in order to see just what is going on. Indeed using this mode is an excellent way to uncover techniques used by other (more skilled!) users.

ANIMATOR is the type of software that cries out for the user to start doing something. Admittedly, this is rather a difficult request to deny since everytime it is used I find I have learned yet another new technique. The possibilities that ANIMATOR opens up are huge — it is the first genuine animation package offered on the PC market. The cost/benefit ratio in terms of a *total* animation system cost are ridiculously low. It is extremely fast and open to importing other files from other software. With ANIMATOR even in the hands of a relative novice, presentation graphics can take on a new dimension.

This package continues to teach and amaze me after several months of use and remains one of my favourite pieces of AMIGA software. The few rough edges are compensated for by the facilities on offer. Considering that IMAGES is included in price, the total package is an absolute bargain. For the benefit of readers who are seriously interested in the range of facilities offered, I have listed the functions on the next page.

PROJECT

Undo Disregard previous user instruction

Fast Menu Toggle the fats menu window

New Script Erases the current script

Storage Displays the storage requestor

Storyboard Transfers program control to the Storyboard

Color Displays the colour requestor

Time Displays the time requestor

Status Displays the residual memory

Exit Leave the program

CREATE

Line Creates an object that is single line

Polygon

filled Creates a solid free-form shape

outline Creates an outline free-form shape

Circle

filled Creates a solid circular object of 16 points

outline Creates an outline of a circle

Star

filled Creates a solid 5 sided star object

outline Creates an outline of a circle

Block Creates a 4 sided raster object

Clone Duplicates a selected object

Destroy Remove an object

MOVE

Move

sideways Drags the current selection around the screen

in Moves the current selection inwards through successive planes. Perspective available from fast menu selection with this option

out Identical to *in* facility

Rotate

in plane Move the current selection around an indicated centre without changing the current plane

around X Moves the current selection around the x-plane

around Y Moves the current selection around the y-plane

Size Enlarges or shrinks the current selection

Path Plots a course for movement of current object

Change color Changes the current selection colour to that of the colour at the beginning of the tween

Change type Changes the object type to outline, filled or line

Morph

loop Change the shape or position of current object by moving points that make up the object

hook Changes the shape or position of current object by moving, adding or deleting points on the object

SELECT

Point Makes the current selection active on an individual point only

Points Makes current selection active on multiple points with points not necessarily on the same object

Segment Makes the current selection active on a portion of a single object

Polygon Makes current selection of any one object

Polygons Makes current selection of multiple object

All Makes current selection of all objects in current animation

TIME

Tween Advance current position to next tween or creates a new tween if non exists

Replay Tween Plays back the animation in the current tween

Replay All Plays back complete current script

Play Loop Replay current script continuously

Ghost Mode Displays all objects in outline graphics

See Tween

at end Makes objects appear in the position they would be at the end of each tween

at begin Similar to above except that objects appear at the start of each tween sequence

COLOR

This displays the current colour palette. Palettes may be loaded and saved like files

STORYBOARD

Project

go into Enter edit mode in the selected window

speed Displays the time requestor

about Ani Details of the software

status Displays the remaining memory

exit Leave ANIMATOR

Edit

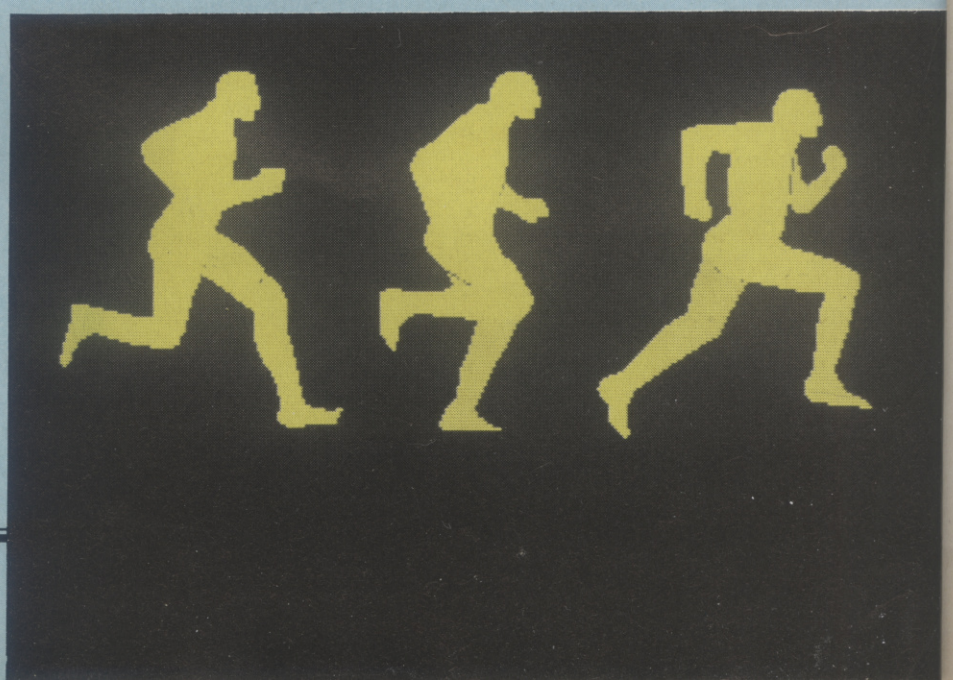
splice Copies the current tween and any future tweens to another window

cut Cuts the current tween and any future tweens to another window

delete Remove the script from the indicated window

activates Same as *Play Loop* in the indicated window

ANIMATOR SUPPLIER:
Aegis Development, 2210 Wilshire Blvd., Suite 277, Santa Monica, CA 90403, USA.
ANIMATOR - UK Distributor:
Precision Software Ltd, 6 Park Terrace, Worcester Park, Surrey KT4 7JZ. Tel: 01-330 7166.



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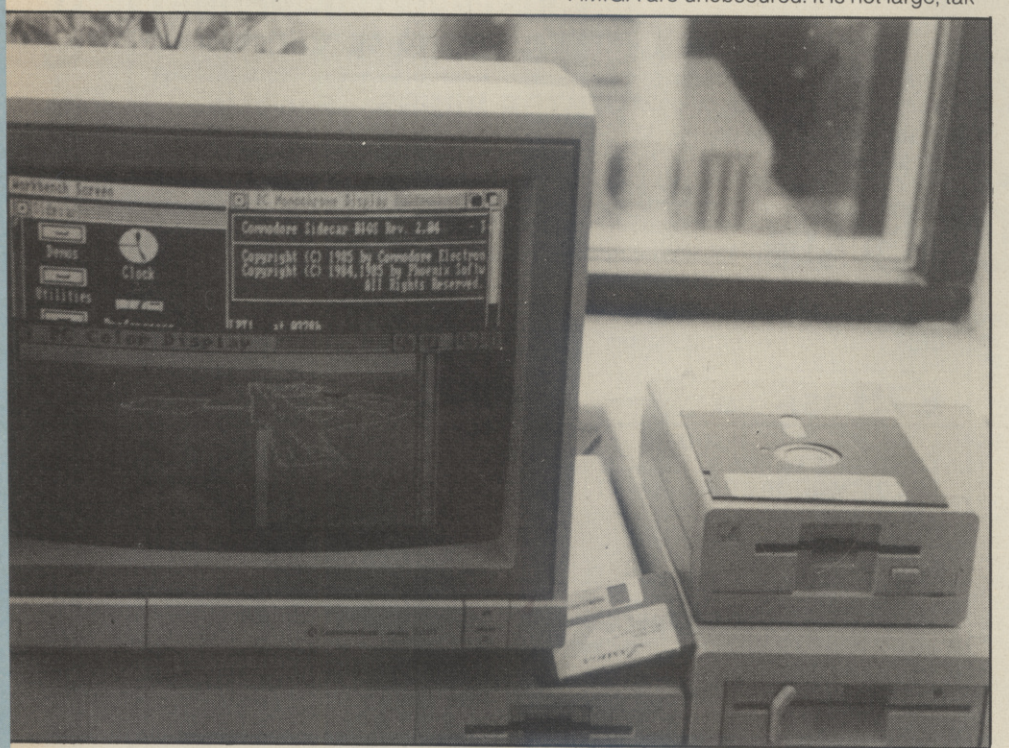
SIDECAR

EXCLUSIVE!

Sidecar is not a myth after all! What is Sidecar? It is possibly the most important device that the AMIGA could have to turn it into a true business machine. And the AMIGA makes any other comparable computer look out of date. I've just returned from the offices of Commodore Electronics Ltd where Gail Wellington, International Software Manager was not just content to provide a detailed, demonstration but also allowed CCI an opportunity for use the device for ourselves.



SIDECAR is the hardware device that allows the AMIGA *complete emulation of the IBM-PC.* SIDECAR, at present, is very limited in numbers and has not yet been released. We hear, however, there are now 1000 under technical and safety evaluation in the U.S. and by September it should make Europe in commerical numbers. SIDECAR was launched at the recent COMDEX Show in Atlanta, USA and reportedly received a very positive reaction from both retailers and potential end-users alike. No prices as yet but reliable sources indicate a USA retail price of substantially less than $1000 could that mean around the $500 mark. I certainly hope so, for that will bring it within the reach of everyone who is even considering a PC.

SIDECAR was developed by the Commodore-Amiga engineering team led by the Master Engineer himself Bill Kolb in collaboration with hardware engineers from Braunschweig, the site of Commodore's West German operation. the device itself is a hardware add-on which is attached to the expansion post of the side of the AMIGA, leaving existing ports at the rear of the AMIGA are unobscured. It is not large, taking up about 25 cm.sq. with a 5.25 inch drive at the front. The hinged lid reveals 3 *full-size* expansion slots inside along with a self-contained power supply for both the slots and drive. Examples of the thought behind the design include the placement of the AMIGA mouse ports in the front of the SIDECAR (the originals are masked by the SIDECAR) and just one power supply cable to connect the complete system up since the monitor and AMIGA power supply sockets are now connected by flying leads from the SIDECAR.

The unit contains an 8088 running at the standard IBM-PC clock speed of 4.77 MHz and differs from the TRANSFORMER which provides *software emulation* of the IBM-PC. Naturally TRANSFORMER is slower and more limited in scope and hence the impetus for a hardware assembly that would not sacrifice these two important parameters and provide *full compatibility and speed.* The expansion slots are *full-size* and following the segmented addressing approach used by Intel processors, RAM expansion cards in the slot may be partitioned — part for the 8088 and the residue for the native 68000 in the AMIGA. Obviously the use of a daughter board would negate the need for a slot containing RAM unique to the 68000 although there is an overhead here — the maximum limit of RAM expansion of the AMIGA is reduced to 6.0 MB using the SIDECAR. It seems that the missing 2.0 MB are used as 'Checkpoint Charlie' by the two processors.

The full features of the SIDECAR are enumerated below, with full support of all IBM display modes. Special extensions to the system software supplied with the unit allow the user to create PC displays that emulate multi-tasking displays of the AMIGA.

- Complete IBM-PC software compatibility
- PC Alphanumeric MONO adapter emulation
- PC Colour/Graphics adapter emulation (standard and enhanced)
- Emulation of all types simultaneously on a single monitor
- 3 Full size expansion slots
- 256k RAM supplied as standard expandable up to 640k on main board
- Local uPD765 disk controller
- Built-in half-height 5.25 inch 360k drive with connector for additional drive
- Provision for optional 20 MB hard disk
- Access to both AMIGA Parallel and RS-232 Serial ports
- Internal timer, interrupt controller and DMA controller 16k BIOS ROM
- 128k dual port RAM for fast access to AMIGA
- 8087 co-processor socket
- Provision to expand AMIGA RAM directly by a special connector on the SIDECAR.

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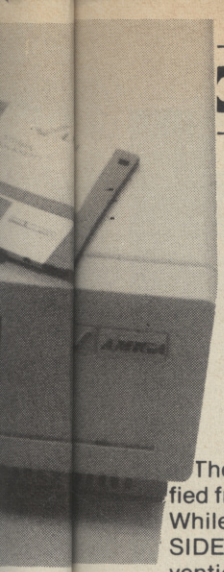


The system startup is slightly modified from that of a conventional AMIGA. While the AMIGA is booting-up the SIDECAR goes through it's own conventional PC routine of a memory parity check procedure and then waits for an interrupt from the 68000. On recipt of the interrupt a copy of the 68000 interface code is placed in the common 128k RAM area and the 8088 then continues with the bootstrap operation which finishes with the placement of the 8088 interface code is the shared buffer. The interrupt structure between each processor is shared, in the case of the 68000 this uses mainly the BR, BG and BGACK signals whilst the 8088 uses the DEN, DT/R and WR signals. The bus arbitration employed is sufficiently robust and stable enough to allow completely asynchronous operation of both processors and their associated systems since the function request is pipelined until a function acknowledgment is received.

Display emulation is done under the auspices of an AMIGA window. The emulation is 100% since the data is bought from the 8088 display RAM which eliminates the possibility of display failure brought about through the use of display tricks by applications software. The window on the AMIGA screen uses the menu structure of INTUITION to providea huge range of options. These options provide a much greater range of modification and control over the PC display, more so than those available to actual PC owners. For example, control extends to modification of the colours themselves or emulation of multitasking displays by opening additional windows into the video display and halting or freezing the information contained within these windows by switching to another window or back to the main window. Note that there is no loss of the standard test display of 80 characters by 25 lines of the IBM-PC through the use of an AMIGA window. The borders of the window and menu bar can be made to disappear completely if required. Provisioin is made for the display of a real-time clock from the 8088 mode by means of a small AMIGA window. Of particular benefit to *power users* is the ability to save display setups as system defaults which represents a considerable time saving when several applications are to be used in the course of a working session.

The interface between the 68000 of the AMIGA and the 8088 of SIDECAR is interrupt-driven from a generator according to pre-defined events within the system. It is also possible for either processor to use the hardware support facilities of either system viz. *the 8088 use AGNUS, DENIS or PAULA directly without the encumberance of the 68000.* This is a very novel and rich environment afforded to hardware or software engineers and opens up a huge potential market. Data communication between the two devices takes place via the 128k dual-ported RAM with the video portion of the 8088 being directly mapped on this RAM. Since this video mapping is transparent to the 8088, compatability to applications using either ROM BIOS or direct routines is enabled. Applications running on the AMIGA can utilise the data contained in the interface RAM for window creation emulating the PC display. The system software provided with SIDECAR allows for the emulation of both monochrome and colour graphics within standard AMIGA windows — simultaneously if necessary since different section of the interface RAM are used.

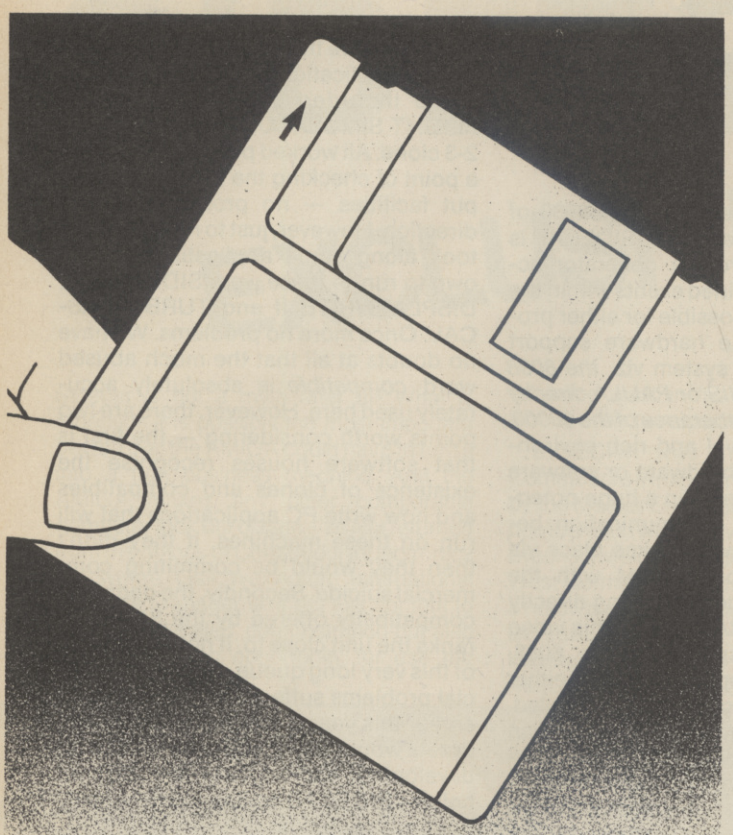
3.5 PC-DOS disks

Keyboard input is done through the AMIGA keyboard thus obviating the need for purchasing another keyboard. Access to the 8087 co-processor by the 68000 is feasible when fitted which also applies to any hardware the user may have fitted to the 8088 expansion board. Additional mass storage can be provided to the 68000 by means of a hard disk fitted in one of the 8088 expansion slots through partitioning hard disk DMA to either processor. An AMIGA 3.50 inch drive unit with a formatted capacity of 720k (PC-DOS format) may be connected to the SIDECAR through a special port at the rear and provides the user with a increase of 100% in storage capacity over the standard 5.25 inch 360k drive. This also provides the benefit of being able to use disks to the very latest media standard, namely the 3.50 inch PC-DOS disks. By employing the uPD 765 disk controller as used in the IBM-PC compatibility problems caused through disk copy-protection schemes are avoided. Since the expansion slots are full-size and completely compatible this provides the user with access the enormous range of third-party add-on cards.

We did have the opportunity to try out several applications supplied by CEL — these included WORDSTAR 2000, FLIGHT SIMULATOR and a LOTUS 1-2-3 clone. All worked perfectly, we made a point of checking the the printed output facilities — no problems in that direction. However, just to make sure we took along some applications of our own to run — these were SIDETRACK, DISPLAYWRITE II and TURBO PASCAL. Once more no problems. We have no doubts at all that the much abused word *compatible* is absolutely accurately used here. However, there are two points worth considering — the first is that software houses recognise the existence of clones and compatibles and now write PC applications that will run on these machines, if they didn't then they would be commiting commercial suicide. Secondly, the degree of compatibility offered by the SIDECAR ranks the unit close to, if not at the head of this very long queue. Given the financial problems suffered by the company earlier this year it is highly unlikely that assets would be, or could be wasted on developing non-starters. We do not believe SIDECAR to be remotely likely to be in that category.

SIDECAR offers Commodore through the medium of the AMIGA family yet another crack at the lucrative PC market. By a demonstration of hardware engineering skills of the highest order they have utilised the powerful platforms of both the 68000 and the AMIGA specialised circuits to produce a system of huge potential in graphics, audio and process control applications. MACCHARLIE may have pointed to an untapped market but failed to capitalise on this market by a combination of high price and limitations of the MACINTOSH itself, viz. no multitasking, poor display emulation and inadequate software compatibility. The benefits to an existing dweller in the PC workd are twofold — *they can use their software AND hardware add-ons.* The sandstorms of hype and novelty may have receded on the AMIGA now and the moment of decision is near. Is it a commercial runner or not? — does it offer any real benefits? — will it save me money? The personal computer market is driven by two factors only — cost and technical innovation. **The AMIGA and SIDECAR combine both factors to produce an entity that can and we predict will, crush its opposition and cement the position of the AMIGA as the leader in low cost, innovative business computers.** *Power Users* please queue here for the SIDECAR

In the next issue we will continue our report of this very exciting and important development and deal with the software aspects of SIDECAR.



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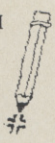

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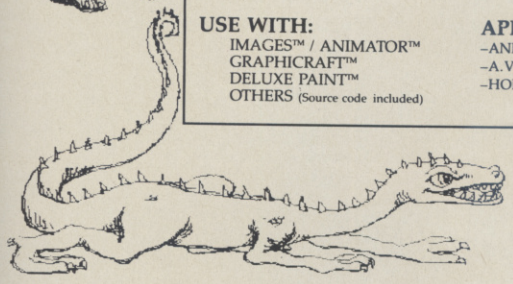

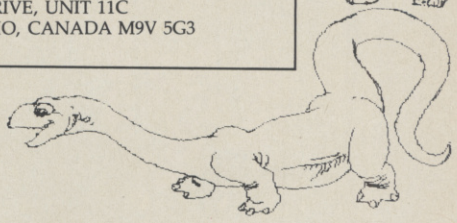

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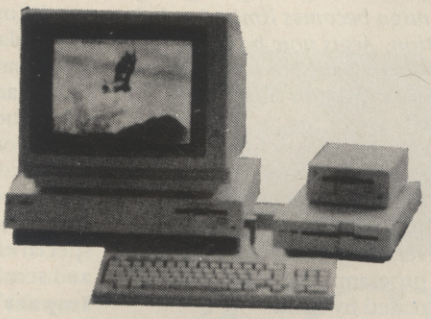

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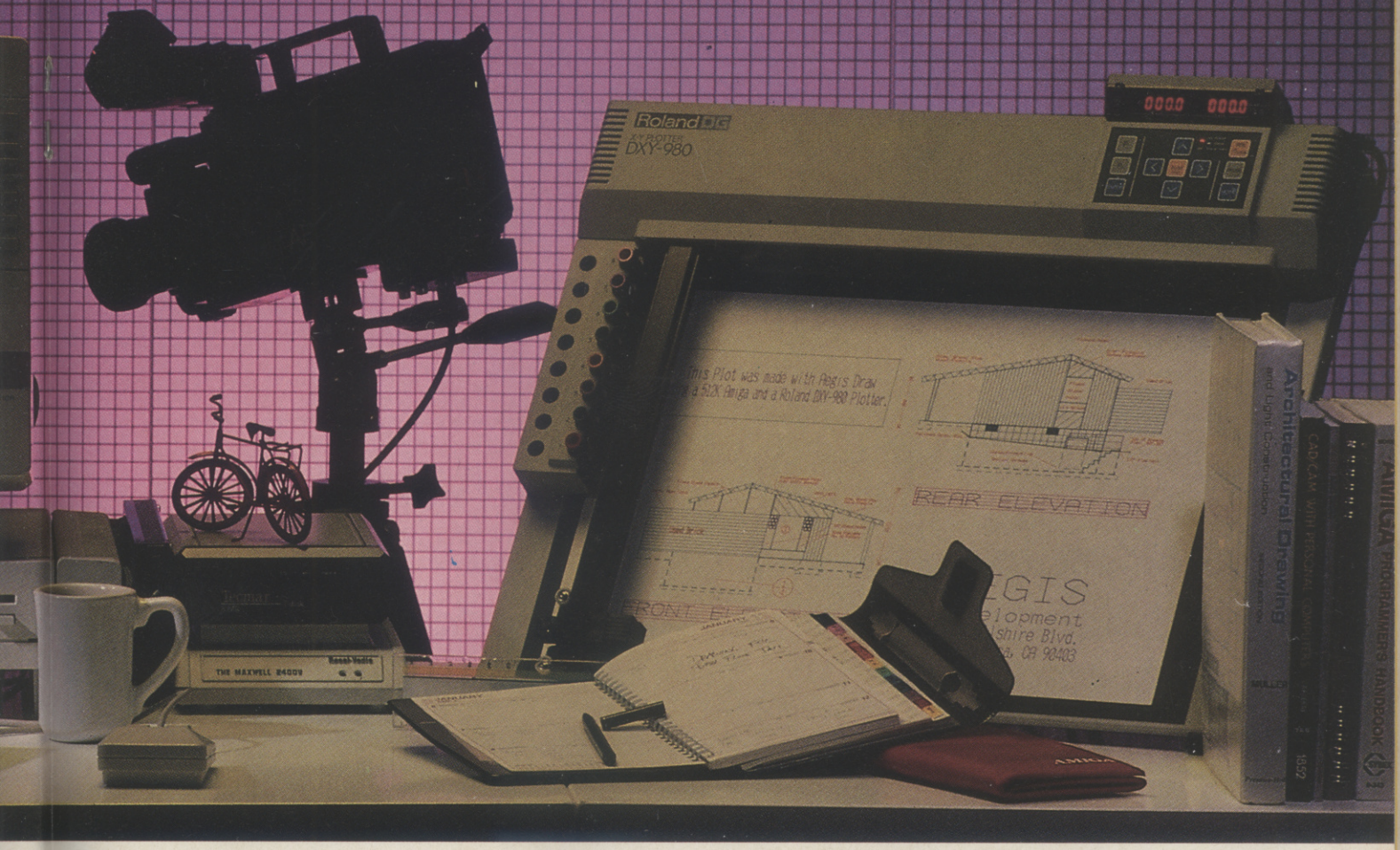

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Keyboard Cadet by Mindscape for the Amiga

"Oh no," you say, "how boring. A typical tutor. "Well, in most cases you'd be right but in this case of Keyboard Cadet from Mindscape (the people who wrote Racter) you'd most definitely be wrong.

It is difficult to write an interesting typing tutor. After all, what is exciting about trying to hit the right key and type in sentences in the shortest possible time? However, Mindscape have managed successfully to join a game concept with a typing tutor producing a program that is silly, fun, and very effective. Quite an achievement!

Keyboard Cadet features some neat graphics and sound effects built around a well designed and implemented package. In the training mode, you have to blast down the alpha-numeric characters that are flying towards you at varying velocities, depending on your speed setting. Hit the right key and 'phut!' goes the vicious letter, vanquished forever more. Once you've managed to destroy all the attacking characters, you face the mothership which you'll have to destroy pretty smartish by typing in the letters highlighted on the on-screen keyboard.

As your typing improves, you can increase the skill level to introduce new letters. The letter, or letters you are required to type in flash yellow, and any letters you mistype in your attempts to get the right key are shown in red. The on-screen keyboard also has two hands positioned over it, showing you how you ought to be positioning yours. As you type. so the hands type, eliminating the need to look down at the keyboard.
Once you've succeeded in your valiant efforts to save the galaxy from mass destruction, you can go on to typewriter mode, or word-processor mode. They are identical except that word-processing mode allows you to insert and delete characters, and word-wraps at the end of a line. In typewriter mode, you can't delete, and you have to press return at the end of each line. Obviously they hadn't heard of Tipex! Any incorrect words entered will be displayed in red, and at the end of a paragraph, you can't correct any wrongly spelt words.

This program really does help improve your typing. Unlike other typing programs, Keyboard Cadet is fun and so you don't see using ti as a chore, but rather as a way of passing the time, having a little fun, or maybe even to improve you typing skills! For pen-bound writers everywhere, a delight.

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You won't grow old waiting for **GRABBiT** to finish printing, either. When we say multi-tasking, we mean it. **GRABBiT** has **a unique TPM (Task Priority Monitor) module** which makes sure your other software can still run even while **GRABBiT** is printing. The TPM module constantly tracks **GRABBiT's** printing priority, making sure it is neither too high nor too low, **but always just right! GRABBiT** adds a new dimension to the AMIGA's multi-tasking capability.

GRABBiT supports **dozens of different printers** because it uses the standard Amiga device drivers. Any printer you can choose in "Preferences" is **automatically** supported by **GRABBiT**. You'll get the most from color printers too, because **GRABBiT** supports full-color printing. In fact, we have seen amazing color printouts produced by **GRABBiT** on the Oki-Mate 20, a color printer costing less than $200.00.

Of course, **GRABBiT's** abilities are not limited **merely** to printing; **GRABBiT** is equally adept at **saving screen images to disk** – yes, even HAM screens! All **GRABBiT** disk files are saved in the popular **IFF format**, the emerging graphics standard for AMIGA. You can capture any screen to disk for slide-show presentations or later enhancement with any popular AMIGA graphics editor like AEGIS Images or Deluxe Paint. We even include a specially modified PD utility called "SEE", which allows you to view IFF image files quickly and easily. **GRABBiT's** disk operations are **lightning fast** because **GRABBiT** is written in a hybrid of highly optimized C and 68000 Assembler.

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ANALYZE!
AMIGA Spreadsheet

ANALYZE! is supplied in the shape of a single program disk and a comprehensive manual. The manual was well written, contained an index and avoided the extremes of too little or too much. The program disk I am happy to report is not protected. Regular readers will know my personal views on copy protection, so I was able to produce a backup disk immediately. Installation was also painless thanks to the overall ease of use of the AMIGA and it was not very long before something productive was happening on my machine.

When using a 512k machine you may have *two ANALYZE! worksheets in memory simultaneously,* since ANALYSE! allows you to partition your available memory. This is all very nice for those users who can keep track of what is where on their sheets and for most users two seems to be a sensible limit. For the benefit of the real *power users* a sheet can be sized up to 200k, which is an extremely large spreadsheet indeed.

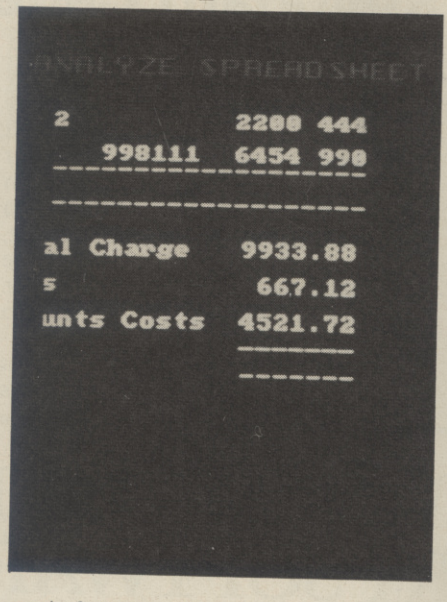
The front-end of ANALYZE! uses the standard AMIGA INTUITION window structure with drop-down menus along with window move and resize. There were no clever tricks or snazzy gadgetry employed, probably in keeping with the solid and respectable requirements of the targetted audience.

The use of the mouse is entirely optional, but it does speed things up when moving around the screen. This is another demonstration of the sensible approach by the program authors of ANALYZE! — there are users out there who just cannot come to terms with a mouse and much prefer the cursor keys.

Regular spreadsheet users will find almost all of their demands catered for. Relative and absolute cut, copy and paste of data and formulae, labelled ranges, headers and footers, localised recalculations using labels, all the necessaries are here providing the food and drink to those users who like to work their machine and spreadsheet software really hard.

Price

It is important to realise that the price of obtaining these spreadsheet functions is considerably less than the likes of LOTUS, SUPERCALC, etc., in addition to which ANALYZE! is considerably easier to use and learn. The functions cover the old standards of spreadsheets such as MIN, MAX, SUM AVG, etc., before moving into dedicated financial and statistical aspects such as present and future values, payments and variance.



One of the more powerful and unusual features of a spreadsheet at this price level being the table lookup functions. I also liked the manner in which time was stored as a serial integer number allowing some useful manipulations to be performed in this direction. Even better was the delight of discovering that this function handles British date style, that is DAY, MONTH, YEAR. Couple these with the purely programming functions in addition to the ability to define orders of recalculation and you have the makings of a very efficient cost-effective tool.

User-defined functions or macros, graphics, three dimensional sheets and sideways printing are not present yet. Note my use of the word *'yet'* since the producer of ANALYZE! has a clearly stated policy of product upgrades to registered purchasers. In fact I felt that the strength of ANALYZE! lay in its tangible solidness as a basis for yet more powerful versions. Considering the newness of the hardware and thus the programmers unfamiliarity with the full range of AMIGA tweeks, the version I ran (v1.2) is a marvel compared to the spreadsheets I have operated before in the 8-bit world. I am happy to buy on the basis that I know the product will be upgraded to use the unique facilities of the AMIGA.

Micro-Systems Software operates a USA-based bulletin board in support of all of their products which is open to those registered users who can afford the phone charges.

Printers

The often ignored sharp end of most application software is the output in terms of printers and files. Dealing with printer support first, ANALYZE! offers two methods of linking to your printer. The first is through the WORKBENCH of the AMIGA using the PREFERENCES tool.

PREFERENCES includes direct support for Centronics or RS-232 interfaced dot-matrix, daisywheel and laser printers. Alternatively, where you do have a printer that is not on PREFERENCES you can by-pass this and send direct commands to the printer. Readers who have older Commodore IEEE printers would be well advised to hold on to them since all is not lost. There will be launched quite soon I hear, a direct connect interface for them.

The printer output will provide headers and footers as well as formulas and borders. The control over the printer extends to line feeds/carriage returns, cell format and margin control, very useful in those tricky situations we have all experienced at some time over printed output from spreadsheets.

The other output that can be produced from ANALYZE! is for disk files. This allows you to save the sheet as an ASCII data file. Image conscious users can then 'massage' the sheet in a word processor to give italics, underlines, etc. The other use for this type of data storage is to provide a route to transmit spreadsheets between the AMIGA and other machines either through direct connection or modem using RS-232. A further example of the inherent long-term usefulness built into the product.

ANALYZE! in its present form makes no claim to being the definitive AMIGA spreadsheet. However, the strength of ANALYZE! lies beneath the surface in terms of its operational speed and overall potential. It is a solid piece (I couldn't get it to crash) and given that the manufacturer will be maintaining the product in terms of improved facilities via upgrades the future of ANALYZE! is very good. It is this last factor that persuades me to purchase ANALYZE! now as opposed to the useful *'something better will be out next week/year'* syndrome.

Contact: *Micro-Systems Software, 4301-18 Oak Circle, Boca Raton, FL 33431, USA. Tel: 305.391.5077.*

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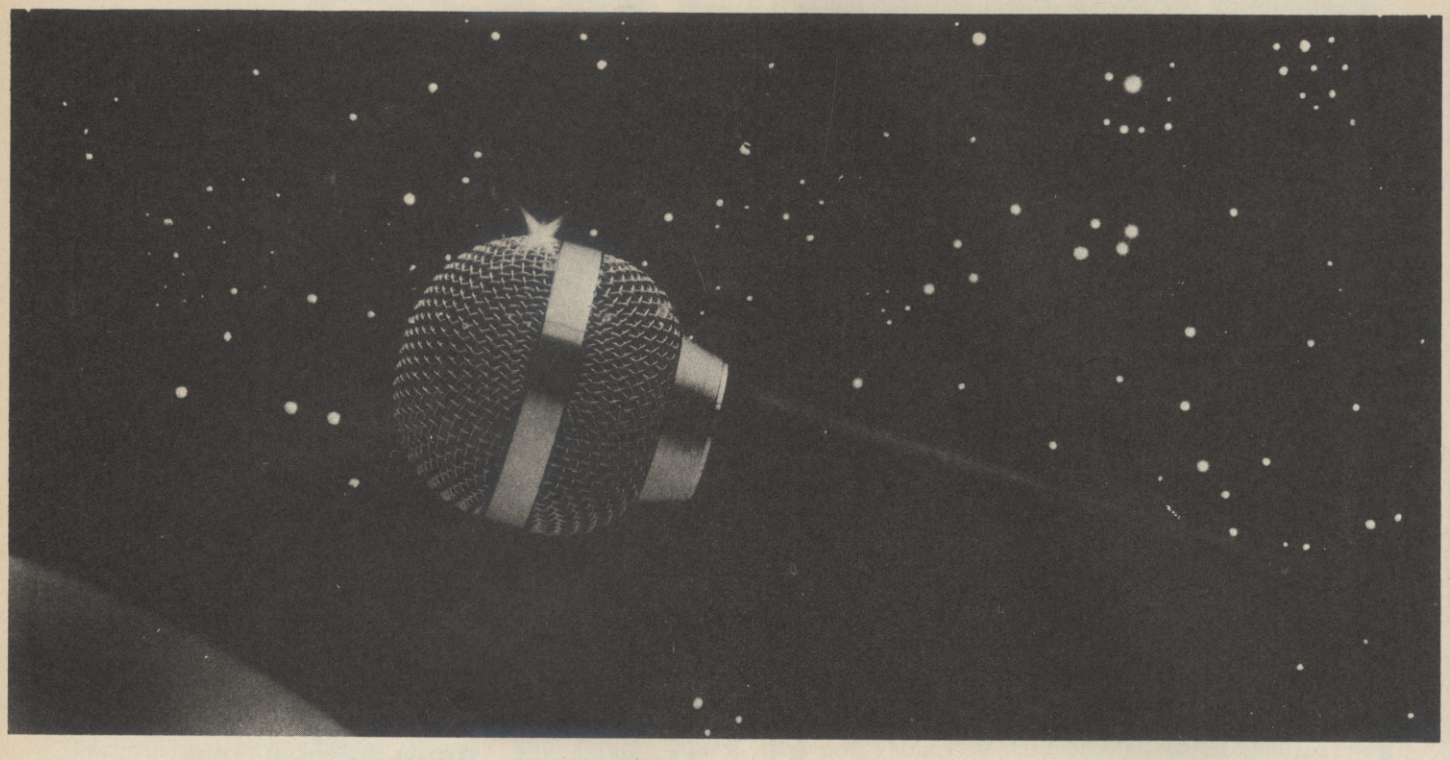

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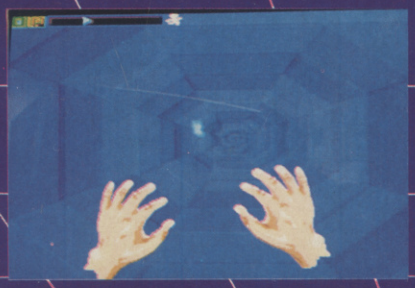
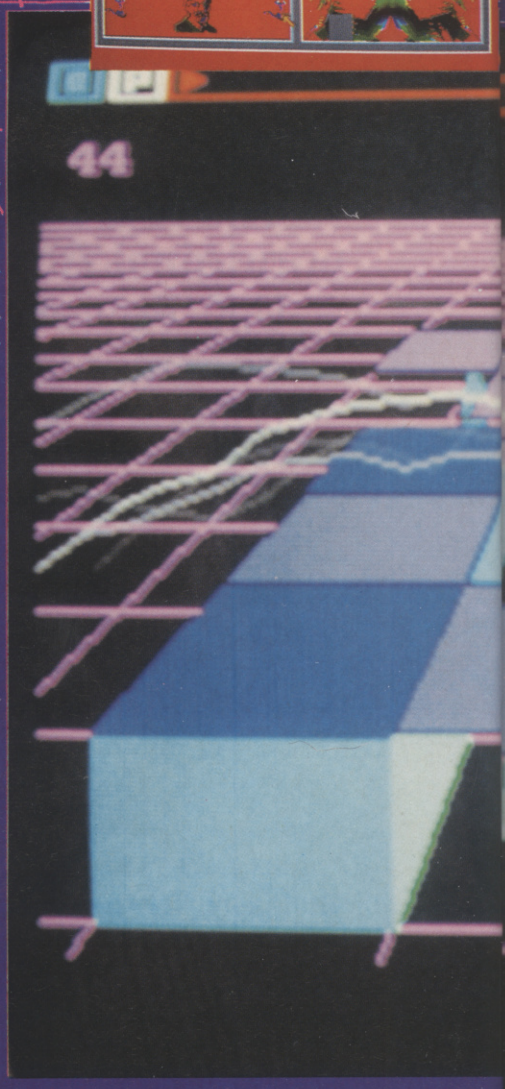




MindWalker, formerly known as WyndWalker whilst under development, has the privilege of being the only game that Commodore will be marketing for the Amiga. What is it that makes this game so special?

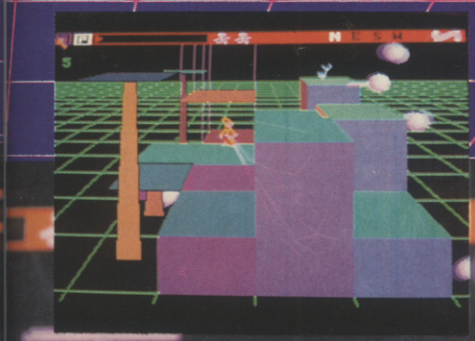
When it was still under development, many people obtained, by various, mostly illegal means, unfinished versions of the game. Of course, as these were not 'official' copies, the 'players' didn't have a clue how to play the game. So for months WyndWalker circulated the developers' circle, with people saying how incredible it was, how it was spectacular, possibly the best graphics ever, but what the hell were the rules! Recently I had a meeting with John Collins one of the elite of the Commodore world hence a possessor of much arcane knowledge. He very kindly explained to me what the game was, and how to play it. I must say that the mystique that surrounded the game before I knew what it was all about still surrounds it now. When I got home, I promptly sat down, booted up MindWalker, and played it through to about 5 am, when I eventually, I say with not a little pride finished it. Not many games can hold my attention for so long, and neither do they have the addictive power that MindWalker possess.

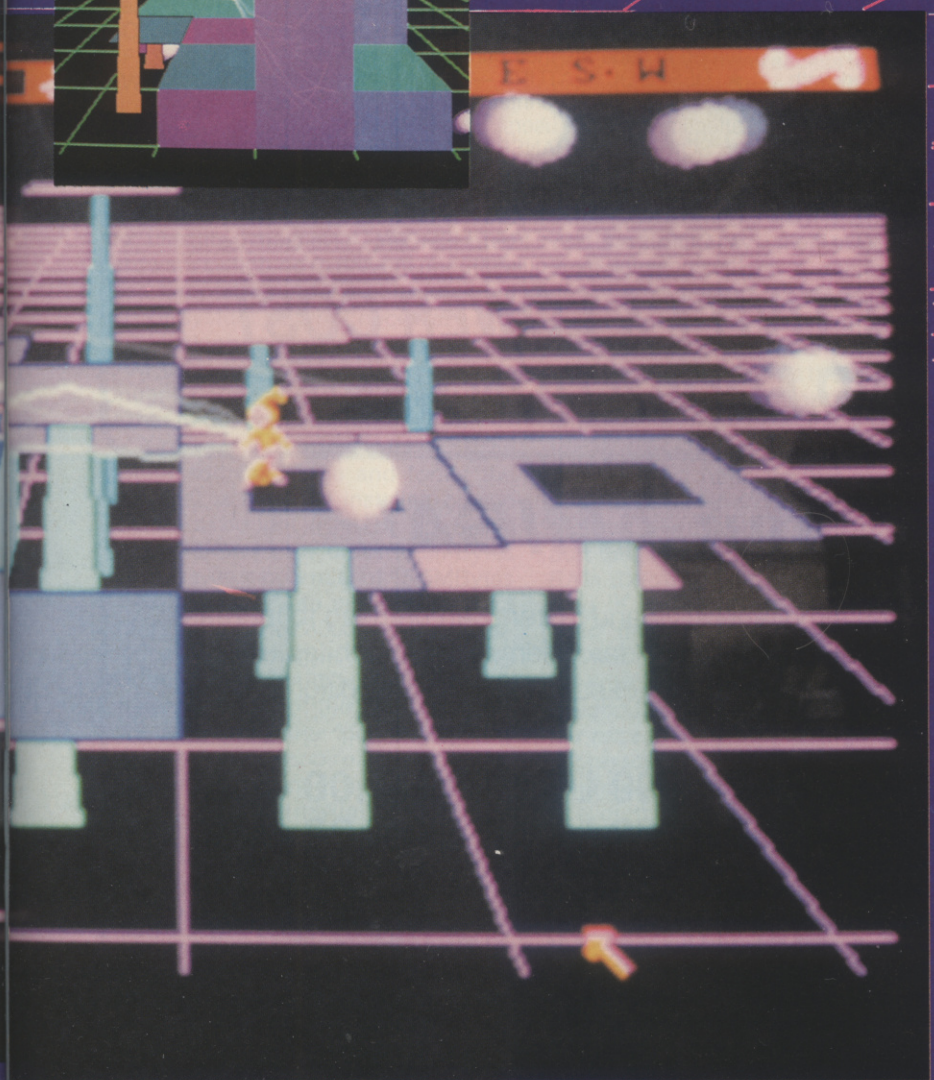
The name very aptly describes that game. Stuck in a mental hospital, you are trying to regain your sanity through your dreams, walking the realms of your mind in its deluded insanity; trying to link up paths of coherent thought; a situation not unlike working on a magazine! To establish a link, you must journey from a crystal to your goal, displayed on the map screen as a flashing square; linking them with a path as you travel. This is where the game starts to get complicated. In your mind, you can take the form of one of several different characters ranging from human to wizard. Your mind is also subdivided into many areas of random size and shape. Each one of these areas is 'biased' towards one of the character types, and to make a path through a purple area for example, you must be a wizard, whose character colour code is purple. To change your character you need to stand under a pyramid where you will be transformed into each type in turn. When you finally turn into your desired form, simply move out from under the pyramid.

If you are unfortunate enough to have to cross another character's boundary, then your path will be halted. You will have to find the nearest pyramid, transform yourself into the required type, and return to where you left off.

To see your current position, you can call up a map screen. This will, on command, show the location of crystals, pyramids, goals, and which areas may be pathed across by which characters. The path you have so far succeeded in creating is displayed as a yellow line.

e now.





There has to be a catch to all this doesn't there? I mean, this sounds too easy! Well, there is, and in later levels the nasties inhabiting your mind operate at incredible speeds making completion very very difficult. Stay too long in one place, and you'll be zapped by a beam of death. Actually, its worth getting killed a few times just to see the display of the skull in its multitude of different colours being drawn.

I can't recall another game that uses colour to such good effect as MindWalker does. The spheres which attack you are beautifully shaded (don't watch them too long!) and the barren landscape of cubes upon which you stand wonderfully coloured in pastels.

The sound and sound-effects in this game are truly stunning, especially if you are lucky enough to be able to shove the output through a good amplifier, and then into a really decent pair of headphones. If you are using a set of those mini-speakers that are widely connected to the AMIGA, then beware! I blew mine up with this game! The raw, deep bass sound when you get killed is so strong, especially with a lot of bass if you're going through an amp, that the speakers may just go phut! Just don't have the volume up to high...

There are also three other screens in the game. The second has you plummeting down a tube, hand spread out in front of you, trying to manouver yourself into the entrance of one of the green tubes that flash past you. The third is very ordinary, and could almost be done on a 64.

The fourth is quite interesting. On the bottom right you have a 7 x 7 area. At the top left you have seven pieces of 49 (7x7) piece moving puzzle. Each time you reach this screen, you've got to place each one of these pieces in the correct position, and you have to get there seven times to complete the game! For the first three times, you'll probably need a little assistance. If you can't work out the proper position of a piece, you can get the program to place it for you. However, by asking for help, you lose a 1000 points from your bonus.

This truly is one wierd game. It is incredibly hard to stop playing, because although initially it seems simple, it is in fact highly complex and requires a lot of strategy. I haven't been told the UK price yet, and I wouldn't like to hazard a guess, but whatever it is, buy this game. This product lives up to Electronic Art's desire for "Computer programs that are works of art", even though it wasn't written by them. It really is state-of-the-art in computer games.

By the way, the first time I managed to complete the game, I scored a self development bonus, from which points are deducted for help, of 32,000 points. See what you can do, and write in with your scores (no calls, please!)

At the end of MindWalker, you have, if you complete the game, regained your sanity. That may be true in games terms but what you really will have done is visited a new dimension in home entertainment; enjoyed a state of the art experience.
Julian Rosen

MindWalker — A State of the Art Experience

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Surely not? . . . the AMIGA has 512K of RAM — what is the point of buying yet more RAM I hear you cry?. To understand the answer to this question demandsa little knowledge of the architecture of the AMIGA. There are several *types* of RAM inside the AMIGA, these are:

CHIP
FAST
WRITE-PROTECT

Write-Protect RAM is a 256k area in which the operating system software is placed after loading in from the 'KICK-START' disk. It is then locked away from the user by means of sophisticated hardware switching to prevent unauthorised tampering and the consequential loss of system security necessary in a multi-tasking environment. In effect this RAM becomes ROM and we need no longer be concerned with this RAM any further in the context of this review.

Chip RAM is the lower 512k of the system address range and forms the RAM that is supplied installed on the machine as bought in the UK. The 68000 in the AMIGA can address 16.0MBytes which leaves a potential of 15.5MBytes for expansion. (Note that this is direct addressing by the 68000 — this processor does not use segmented addressing as found in the Intel 8086 family.) Unfortunately, this is not the case since we have to allow for the operating system software, and input/output circuits which are always memory-mapped on a 68000 system. The maximum expansion of RAM that Commodore-AMIGA recommend is 8.0MBytes — the principle reason for this limit relates more to power in the system. The special circuits within the AMIGA, namely AGNUS, DENISE and PAULA can only access this lower 512k RAM which in effect forms the *video RAM*.

Fast RAM forms the 8.0MByte expansion and receives it's name from a property of the special circuits. This property ensures that under certain conditions the special circuits can hold the 68000 processor off the address bus whilst they continue their task. For example, the much vaunted Blitter can finish off a screen area fill at the expense of the 68000 hence one of the reasons for the very fast graphic abilities of the AMIGA. Obviously the system software needs a high degree of robustness and intelligence to arrive at and maintain such arbitration between the hardware and the system busses. The 68000 cannot be pushed off the address bus on this RAM simply because there is nothing there to do it. This makes any access to this RAM potentially faster than *chip RAM* therefore the name *fast RAM* was coined.

The **COMSPEC RAM EXPANSION** is supplied in the form of a well constructed pcb containing 2.0MBytes of RAM. When fitted to a UK-specification AMIGA the total system RAM becomes 2.62MBytes. The pcb is enclosed in a substantial metal case painted in a matching colour to the system box. The unit's overall dimensions are approximately 9 by 4 by 2 inches thus it does not represent a visual threat and fits in agreeably with the AMIGA environment. Installation takes less than a minute — consisting of removing the expansion port cover on the right of the system box, refitting this cover to the expansion port that is duplicated on the side of the RAM EXPANSION box and then plugging in the RAM EXPANSION to the main unit. I was both pleased and releved to note that I had not lost the expansion port. Obviously the only 'skill' needed is care when fitting the unit to the expansion port. **I was particularly impressed with the high standard of workmanship in this unit.** I happen to be one of the rare animals — that is a reviewer who actually takes the lid off the hardware under review. My impression of quality was reinforced by the manufacturer's use of rubber buffers to space the unit from the system box and more importantly use buffers on the underside to support the unit properly rather than rely on the main pcb of the AMIGA to perform this function, unlike some assemblies I have seen recently.

Further RAM expansion is simply plugged into the side of the first unit although it is advisable to provide for additional power beyond the second unit — 2MByte units on NMOS circuitry are hungry. No documentation was supplied with the unit other than the warranty card. The documentation is supplied on the system disk which contains a simple file describing the installation of an additional program into the C (command) directory and amending the startup-sequence file (AUTOEXE.BAT in MS-DOS terminology) on the user's Workbench disk. Once this had been done the system fired up and proceeds to test the RAM and notify the user that all is well. This process takes less than 10 seconds. The product uses the *'Auto-Config'* architecture of the AMIGA. This means that unlike IBM-PC and its clones, the fitment of additional peripherals to the expansion port does not mean the user having to go inside the machine and mess around setting DIP switches. *Auto-Config* recognises exactly what is on the external bus and takes care of it in terms of the location of the peripheral within the processor address range.

At first, I could not detect any difference on my Workbench display to indicate the presence of the additional RAM. Then looking at the menu bar with the rolling count of free memory I noticed the figure 2499208 rather than the usual 401920. I must confess that at first I misread this thinking that I had lost RAM until I realised that an additional digit was present — oh well, it has been an extremely hot July! I then proceeded to the AmigaDOS level to start my exploration of the uses of the vast increase in capacity.

At the DOS level the main use tended to be as a RAM disk since AmigaDOS directly supports this facility. This is of immediate and substantial benefit to software development since it allows the user to copy the compiler AND system disks into RAM. There is even sufficient left over from this exercise for very nearly a further FULL disk to be loaded in. The advantage given here is a *considerable reduction on compile cycles* even using the leisurely Lattice C compiler since the need for disk access is negated. Readers who are unfamiliar with AmigaDOS may note that it supports a full hierarchial directory structure and is closer to UNIX than MS-DOS in facilities and available commands.

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For end-users the benefits of additional RAM becomes immediate after copying the Workbench or system disk into it. This allows the use of the internal drive (df0:) for other purposes — of particular value when so many applications make heavy use of the routines on the Workbench disk. Not least is the enormous increase in overall system operating speed since everything is now held in memory, although it has to be said that when used correctly (a note for some reviewers who fail to comprehend them) the AMIGA disk drives are both fast and reliable. You may now keep all of your program and data files in *fast RAM* rather than video or *chip RAM*. This has the benefit of leaving the latter completely at the disposal of video or audio data for manipulation by the special circuits. Therefore tasks run faster and have a greater amount of memory available to them. Of particular interest with this effect is the forthcoming AMIGA SUPERBASE which makes great use of the machine's memory to hold as much as possible of the user's immediate data requirements such as disk directories and key index parameters.

I was greatly impressed with the COMSPEC product and really begin to wonder what life was like on a mere half megabyte of memory! It has certainly paid for itself in terms of the increase possible in my personal productivity. The AMIGA is not short of RAM in the conventional sense of the word — certain applications such as animation will, however, run it close to the limit. On the other hand RAM represents the consciousness of the machine and rather like a car engine there is no direct substitute for capacity.

I am more than happy to recommend this product — additional RAM for the AMIGA should be the number one priority for any buyer whether software developer or end-user. This not only turns a powerful machine into a force to be reckoned with, but allows the true *power-user* full reign. Through personal choice and now experience I'm glad that I made this decision rather than go for the hard disk units. Admittedly they are next on the shopping list after the open-heart surgery of replacing the 68000 with a 68010 processor, but that's another story!

2MB RAM Expansion Supplier:-
Comspec Communications Inc 153 Bridgeland Avenue. Unit 5 Toronto Ontario M6A 2Y6 CANADA tel 416.787.0617

UK Distributor:-
Precision Software Ltd. 6 Park Terrace Worcester Park SURREY KT4-7JZ. tel 01.330.7166

Books

PRESENTING THE AMIGA

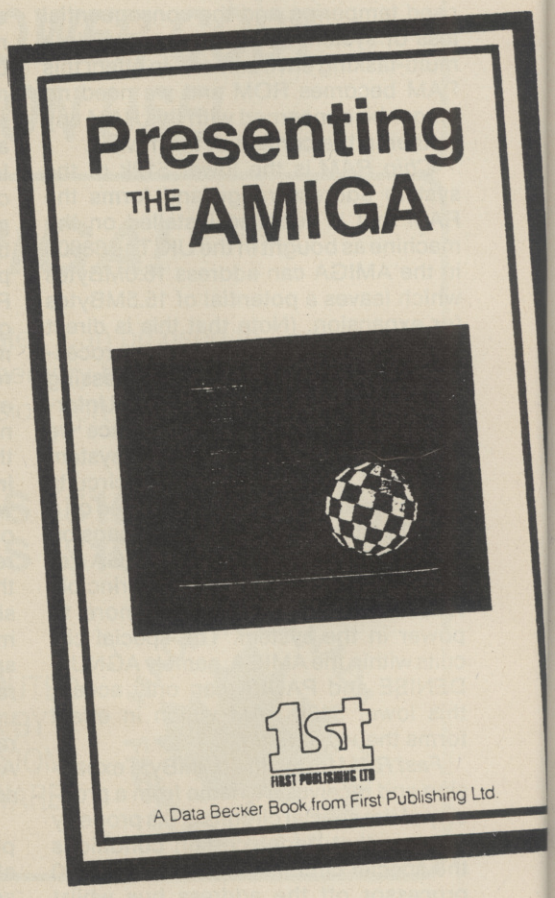
CHRISTIAN SPANIK

FIRST PUBLISHING LTD
£9.95

It had arrived! At last my Amiga had been delivered. Boxes were flying everywhere, there were bits of polystyrene packing all over the floor. Even the wife was excited. I'd unpacked it within seconds. Now what? Well, luckily for me I had received a copy of "Presenting the Amiga" only a couple of days before my new 'toy' had arrived. The author, Christian Spanik, had obviously gone through the same 'got to get it going' phase I was going through and was therefore able to give some advice on what problems I was likely to encounter. The book falls into five main parts. The first part is the 'How to unpack, plug it all together and switch on' section. The second section is probably one of the most important parts of the book. It explains the AMIGA/WIMP concept. This it achieves with a 'Now press button B' type talk through. This type of approach can quite often lead to a long, drawn out session but Christian's light-hearted manner (not too American) proved quite entertaining. Section three covers Basic. It is not intended as a complete course in Basic but as a quick guide round to show you how to get at some of those lovely frills and spills. Section four - AmigaDOS. If I buy a computer with a disc drive, I expect to be given the information I need to operate it. This is one place where I feel Commodore has let the side down again. They provide little, if any, information on AmigaDOS (Amiga Disc Operating System). I asked Commodore why they did not include a AmigaDOS manual only to be told that the Amiga is a WIMP environment machine, Goodbye. "Presenting the Amiga", however, does give you a peek at the DOS and probably saved me from jumping off the roof. The final section comprises of the appendices or "Things you don't keep in your head" to quote Christian.

All things considered, this is an ideal starter book for the Amiga. It is light-hearted and easy to read. It has the feel of a book written by someone who has actually experienced the very same problems and pitfalls as I have. However, if anything lets the book down it is the index. I would have much preferred to have seen the more regular type as opposed to Christian's KEYWORD index. That comprises of about 100 keywords which then refer to hard to locate chapters. Still, nobody's perfect (the editor excluded).

Ian Bennett

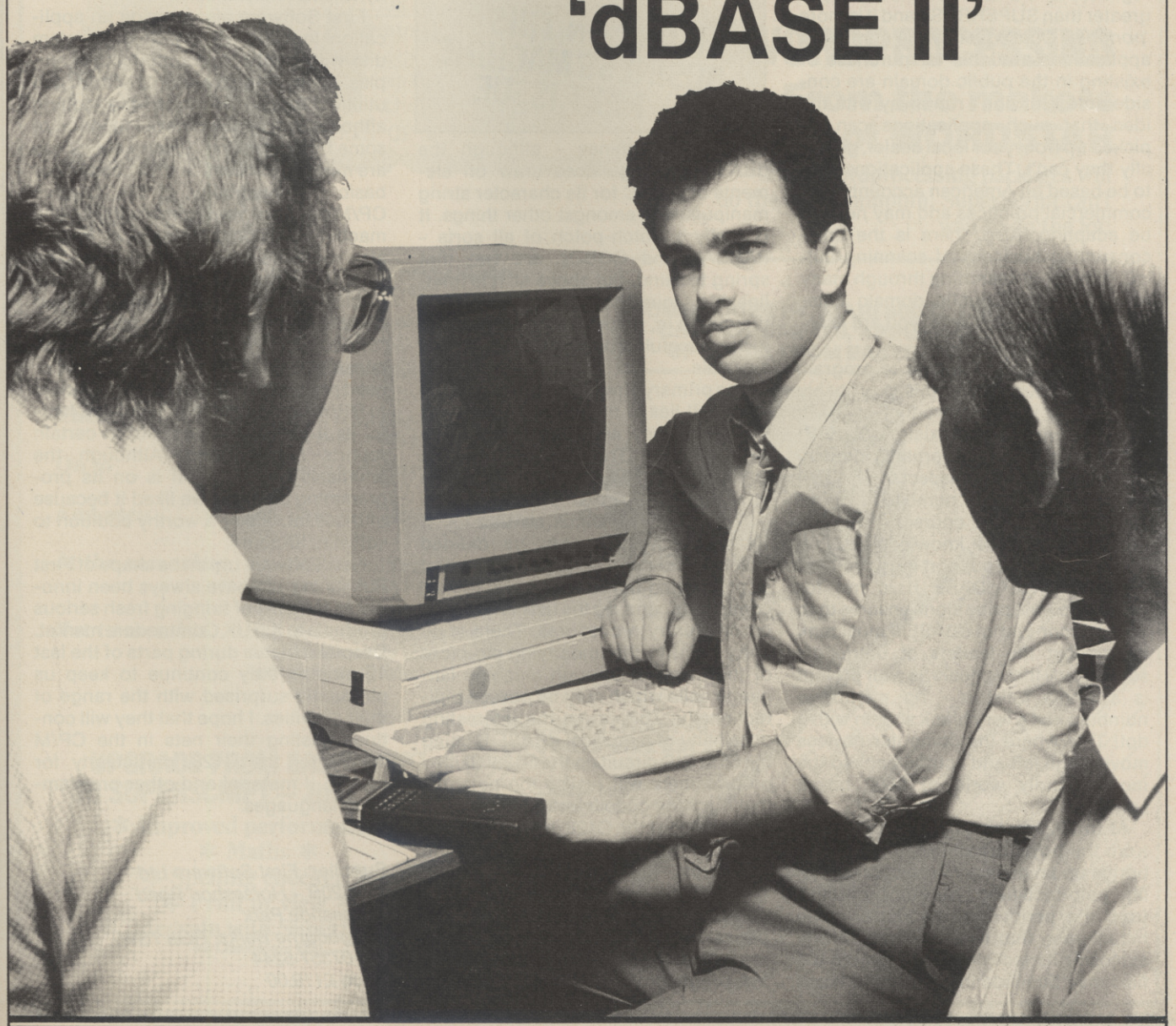


Commodore 128D 'dBASE II'

At long last I've managed to get my hands on dBASE II for my C128D. After word processing I have always retained a keen interest in database products and been a strong advocate of SUPERBASE, so why dBASE II? Well, SUPERBASE is almost certainly the leader in the Commodore world for databases. However, SUPERBASE is based on the 6502 processor and this limits its usefulness in two ways. First, 6502 machines never achieved a 'standard' operating system which reduced the number of machines that SUPERBASE could run on. Secondly and in complete contrast, the Z80 and its prodecessors, the 8080/8085 processors, have an established operating system in the shape of CP/M. The number of different machines that can run CP/M means a much wider user base and given the current revival of CP/M some of the 'golden oldies' of the CP/M era are being dusted down and re-issued; the venerable dBASE II being one of them.

A lot of people who are not personal computer users or owners tend to assume that computers are only good for numeric applications. They fail to appreciate the ability of computers to serve as organisers of data and this data does not have be numerically derived. Every single human activity involves a need for organisation - we all have those scraps of papers, numerous pens and pencils, paper clips, cuttings and those sticky pieces of yellow notepaper strewn around our home and workplace. A database management system (DBMS) aids the organisation of our business affairs and personal life.

There are database programs that are simply based on a record card-index structure - these are termed flat file systems. They are restricted in the form and number of entries that can be made and how the entry contents i.e. your data can be manipulated. More powerful database programs are not restricted - the power is a direct function of the lack of such restrictions - and the form of data entry can be designed by the user. Data is entered into *fields* or data parameters, *fields* collectively form a *record* and a number of *records* is termed a *file*. A system of *files* forms a part of a *database* and a large database can mean many *files* being held in it. Once the data has been entered, it can then be manipulated in any number of ways such as using the function of time and dates, direct comparisons or mathematical manipulation, numerical or alphabetic sorting and indexing. The ultimate database programs allow the data in a *field,*



record, file or *database* to be 'related' in the above ways to data held in other databases running under the same software. These are termed *relational databases.*

dBASE II is a *relational database*, unlike SUPERBASE which has a limited form of this function. But that raises the questions of why buy dBASE II rather than SUPERBASE? The answer lies in the three potential types of purchaser. The first type is likely to have a SUPERBASE system already installed and be a knowledgeable user who has amassed a large collection of data or alternatively enjoys programming. The second type is the *'solution-required'* user who needs a specific application to fit in with an intended area of operation, generally a commercial application such as a mailing list. The third type may be using dBASE II at work or on aother make of machine and wishes to dBASE II data disks in the C128 or C128D. Because dBASE II have evolved under the CP/M regime, the volume of users is that much greater than SUPERBASE and it is more *'portable'*. Consequently the number of applications available for purchase or existing in the public domain are considerable. But don't run away with the idea that such applications can be picked up from your local dealer, generally they can't. These applications tend to be based on American accounting or commercial practices and may need to be adapting. Also, there is the time-consuming business of scanning bulletin boards or searching through many pages of CP/M public domain catalogues, deciphering what you are likely to need.

The other option open is to program dBASE II yourself and this is probably the reason why the product is worth buying if you are an existing SUPERBASE user. There is a vertiable industry revolving around this aspect of dBASE II with a considerable number of books available, training courses and just general weight of knowledge about. There has to be a support infrastructure of sorts since dBASE II is not for beginners - the price alone ensures that.

The *'front-end'* of dBASE II must rank it amongst the leaders of unfriendly software, all that appears as your prompt is a single fullstop - no menu, no numbers just a very blank screen with a dot! This where the computer novices move stage left and scuttle back to the more friendly world of 6502 based software.

At this point, having sorted the men from the boys, pressing the HELP key brings up an extensive selection of on-line help facilities. You quickly realise from the ponderous manual and the help screen that this product is pretty extensive its facilities. For example the files may be made in a variety of types for processing under CP/M or other applications such wordprocessors and spreadsheets. dBASE II has developed considerably in this direction and it appears unlikely that the restrictions that Commodore DOS imposes over sequential, relative and program file interchanges affects CP/M.

Defining the record structure in dBASE II is very structured and easy once you have come to terms with the lack of full screen editing - this is CP/M after all! The record screens may be customised using the limited range of graphic characters available to the C128 or C128D running on CP/M. It is the programming language of dBASE II that makes this product so effective in many applications. This language does not use the platform of BASIC to work from because BASIC is regarded as an optional extra on CP/M machines - although the dBASE language does draw on elements of BASIC for its character string manipulations amongst other things. It is really a hotch-potch of all sorts - PASCAL and COBOL are two that spring to mind, but above all it is intelligeable. I found no difficulty at all at just ploughing in, particularly since there is a very useful program debug facility available.

C128D

MORE ON THIS BUSINESS MACHINE NEXT ISSUE

The primary strength of programming dBASE II lies in the range of functions available. They are comprehensive to say the least. The facilities for data indexing is exhaustive and it seems unlikely that a good programmer is going to come unstuck on this topic. Command macros may be defined which cut down considerably the amount of processing time whilst using the *set* commands can save the user lots of time on data entry procedures. There is an entry point to the underlying structure of the machine through machine language calls which may be passed bidirectionally. This raises the interesting possibility of a musical dBASE II using the 6581 SID circuit on the C128! Skilled programmers will realise the potential that machine code interfacing offers in the context of the C128 itself, a particularly innovative vehicle for machine code work.

The manual supplied with dBASE II is comprehensive and runs to over 275 pages. Note that it is the full-blown manual as published by Ashton-Tate, the progenators of dBASE II and not some watered-down effort. An additional page serves to cover any idiosyncracies of the C128, C128D and the various Commodore drives. First Software Ltd, the suppliers of dBASE II are at pains to point out that the 1541 is not an ideal vehicle for this product - it is slow and limited in storage capacity. Indeed if you were going to use the portability aspects of the product then the 1571 drive represents the wisest choice. This will allow the reading in of dBASE II files from elsewhere,unfortunately I've been waiting for some time for Commodore to provide me with the DR CP/M Utilities Disk and the enhanced version of CP/M PLUS (the 8th December 1985 version) which allows reading and writing of MFM disk formats and modem facilities. If you application does run to large volumes then the BRAINBOXES IEEE interface operates with CP/M on the C128 thus allowing you to access such drives as the 4040, 8250 or SFD1001, although at the expense of disk portability to other machines.

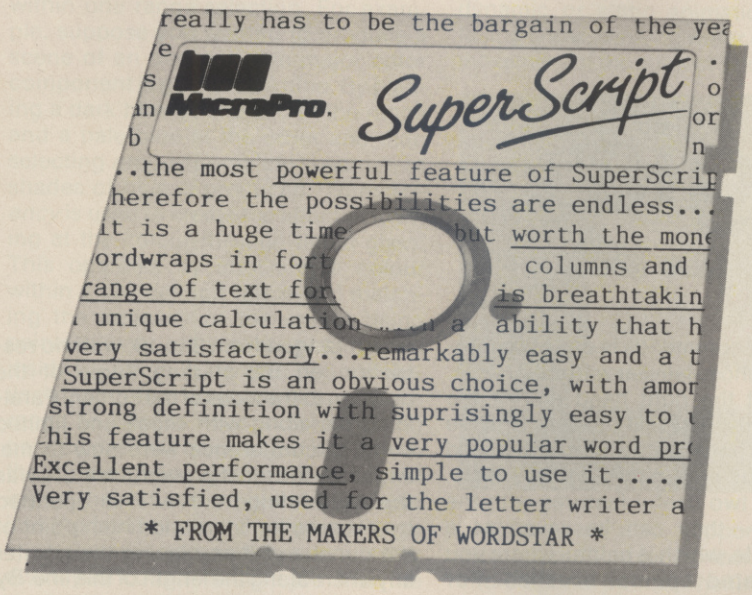
First Software also provide an application template disk with the system disk with plenty of programming examples. There are also a couple of dBASE II utilities for sorting and file editing although the manual makes mention of some further utilities. Presumably these are missing because of disk capacity or basic incompatibility of the C128 - CP/M does not always fit exactly on any machine. A technical support scheme is also available for additional cost. The offer of a reduced price on one of First Publishing's book (a sister company) on dBASE II is certainly worth taking.

In summary dBASE II is well worth considering if you are a *power-user* or need portability. Maybe not for beginners to DBMS although I didn't find it as fearful as it has been made out in certain reports I have read. Although the emphasis on dBASE II is on its programming abilities, we liked it because of these facilities - a worthy addition to software armoury.

First Software Ltd in the shape of First Publishing Ltd have always been innovators in terms of bringing fresh serious products to the UK Commodore market. Despite a hiatus during parts of the last 12 months they continue to keep us pleasantly surprised with the range of their activities. I hope that they will continue casting their nets in the CP/M waters for the C128, particularly for dBASE II material and other programming languages.

Supplier: *First Software Ltd.*
Unit 20B - Horseshoe Road
Horseshoe Park
Pangbourne Berks. RG8 7SW.
Tel 07357 5244
Price *£119.00*

WORDAHOLIC



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Images

by Aegis

Aegis IMAGES is a creative paint/draw package which starts to reveal the true graphics strength of the AMIGA. I have spent a great deal of time exploring and using IMAGES and my efforts have been both creatively rewarding as well as pleasurable in the extreme. IMAGES, whilst not turning me into a Renoir has certainly taught me a great deal about texture and the implications of colour. Considering that my personal background is essentially applied science and with no art training or quite candidly little interest, I now have few qualms about tackling a project with IMAGES.

I created some of the pictures in this issue using IMAGES. It must say a lot if I have the confidence to expose my efforts in this field in such a public manner! So what was it about IMAGES that caused me to take up the mouse and start 'painting'? One word — *speed*. The ability to accept and translate your ideas quickly upon the screen before they disappeared from your mind — the ability to modify large ares of the screen without taking minutes of your time — the ability to undo the last command — all of these contributed in making IMAGES not so much a piece of personal computer software rather an experience to be savoured and remembered.

Aegis IMAGES is supplied on an unprotected disk which the user can install onto hard disk and comes complete with an 84 page manual. The manual is in fact a full-blown book containing a glossary and index. The standard of writing is very high and provides object lessons in software description. The manual provides little in the way of graphic techniques and concentrates purely on the elements of using IMAGES.

The product uses the Intuition environment of windows, menus and icons. Thus the method of moving around and finding the commands is quite straightforward to those familiar with the AMIGA. Starting at the right hand end of the menu bar, the first section deals with the brushes. There are 16 in number and each can be edited to the user's taste. There are two useful features with the brushes — they can be saved as a separate file, which is helpful where you have created special brushes. For example one of my earliest experiments involved making street maps by defining road junctions, railway lines, churches, etc., with brushes I was able to build up a map very quickly indeed. I then extended this idea to electrical circuits using symbols such as resistors, capacitors and inductors with complete success.

The second feature of brushes has huge potential in the ability to select an area of the screen and pick this up as a brush. Airbrushes also form part of this section and can be defined in terms of spray density and spread.

The next menu selection dealt with shapes and in addition to the usual rectangles, circles and area fills, there were some facilities that I had not seen before. Selecting polygons opened a submenu indicating the number of sides which ranged from 2 to 19, with no restriction on the starting angle of the polygon to the sides of the screen. Parallelogram along with elipse and limited circle circumference were new to me. Arguably the most powerful feature was the user-defined curve. This operated by defining the start and finish point of the curve and then placing the pointer anywhere along the length of this line. By moving the pointer away from the line, the curve was then formed. The effect was rather like that of an elastic band being stretched around a curved surface — very impressive.

This section of shapes also included the fonts selection and provides for up to 6 different types of font on screen. There is room for a product enhancement here in the next version since one very useful attribute was to make up posters quickly, literally as the poster contents were being dictated. Let's hope we can have yet more fonts in the next released version.

When you move onto the following menu selection, namely colours you begin to appreciate the depth of the graphics abilities of the AMIGA. There are 32 colours on IMAGES palette and colours are defined using a proportional gadget which allows modification of the red (R), green (G) and blue (B) components of the selected colour by means of adjusting the colour *hue, luminosity* (black/white ratio) and colour *saturation* or intensity. In this way a colour can be defined from the machine's master palette range of 4,016 colours. Editing of the existing palette can be carried out using the *copy* or *pick* functions. The former allows copying of one colour to another in the palette — the latter allows the colour to be selected from an existing colour on your picture. A very powerful facility called *range* allows the user to provide a range of shades, the

Images

number of shades being limited to 32 (!) within one range selection. For example, suppose you wanted to produce a scene of an ocean — the major color component is going to be blue. By placing a dark blue at one end of the range and a pale blue at the other and then selecting *range* a complete spectrum of shades of blue is produced. *Transparency* is used to create the effect of looking at the colour through tinted glass. This operates by choosing a colour within a pre-defined range and matching the intensity of the colour being painted over with a suitable match inside the range. *Glow* operates in a similar manner to *transparency* by using a range to decide what a colour being painted over will be changed into. When the colour being painted over is not inside the defined range it is changed into the first colour in the defined range — on the next occasion this occurs, the overlayed colour is changed into the next colour in the range and so on.

Patterns form part of the colour menu and have much the same functions of *copy, get* and *pick*. This latter function is very useful for creating patterns from areas on the painting and some very unusual and complex patterns can be defined. The patterns can be edited in the manner of brushes — that is on a pixel by pixel basis where each pixel can be coloured according to your selection from the colour palette. A pattern can also be used in same way as colour and a brush can paint a pattern using any of the shapes available. Colours and patterns can be saved as a disk file - useful where patterns are part of a complex painting. A classic demonstration of how IMAGES and the AMIGA can solve a problem can be shown by the following example. I wanted to have a font in a pattern rather than in a colour. The font can only be rendered in a single colour from the menu — ah! he says — but what if I get the font up on the screen and then select the desired pattern and then *fill*. Placing the brush over the font and there it is a character with a pattern rather than a colour.

The most versatile parts of IMAGES are performed by the next menu selection which is appropriately name Special. In this section further parts of the real strength of IMAGES are to be found *Smear* produces an effect rather like finger painting although the outcome is dependent to a large extent on the size of brush used. *Wash* is much more subtle and accurately descriptive producing a watercolour effect on an area under the current brush. *Cycle Colors* will rotate colours on the screen through a pre-defined sequence of colours. The rate of cycling can be graduated on a scale of 40 units and there are 4 separate colour ranges available. *Cycle Draw* does a similar thing except that it applies to the users current brush. The facilities of these two functions allow for dynamic or static animation such as falling snow, running water or apparent movement of the subject's components.

Mirrors are also supported in this menu and allow for horizontal, vertical and diagonal points. The final option is *Effects* and here at last we come to the core of IMAGES. There are 7 effects each representing substantial power to any type and level of user and put the AMIGA at the forefront of personal computer graphics. *Pantograph* duplicates an area of the screen but the second area is not revealed until it is painted over. *Under* defines a priority for colour overlays — for example, you could decide that your red brush must paint over any colour accept blue, white and brown, alternatively put a pattern on the brush and paint it over another pattern. *Grid* provides a grid-like structure overlaying the display, the dimensions or inclusion of the x and y-axis are variable by user control. *Spread* performs a gradient fill with user selection of the gradient rate and fill colour range. The fill can perform in a horizontal or vertical direction. This function is useful for creating clouds or landscapes very effectively and quickly. *Constrain* binds lines drawn to certain angles whilst *Tile* lets the user define an area to be used as a brush. *Antialias* produces a smoothing effect between the boundary of the background and active colour — for example if you were painting over a green area with a red brush the edges would be tinged either orange or yellow depending on the depth of the original colours. Versatile is rather an understatement in describing these functions!

The edit menu provides a *magnify* facility which produces a window that can be moved anywhere on the screen and resized. The actual depth of magnification possible with this function is astonishing with the pixel size being taken to about 1 inch (2.5 cms) at maximum magnification. IMAGES supports 2 screens per application in 512k RAM AMIGA and this facility is used with the next function *frame*. This has to be the flashiest part of IMAGES and is *guaranteed* to draw gasps from onlookers who have never seen it. *Frame* operates by opening a movable, resizable window which is then placed over the area to be framed. The frame then picks up a mirror image of the area which can then be placed elsewhere on the screen. Alternatively the frame can be moved to the other screen within IMAGES for further manipulation. The clever part of *frame* is the facility to resize the frame itself. When this is done the object within the frame *maintains proportion* with the new size. If that is not enough the framed object may be *rotated to any angle within 180 degrees*. Finally, the entire frame contents may be used as a paintbrush! The overall effect is compelling to both user and viewer alike. The final and personal favourite function in the *edit* menu is the *undo* command — this allows a backtrack to take place when you have just put a bright green squiggle across your masterpiece.

The remaining menu termed *Project* deals with file input/output of your screen to disk or printer, etc. Printers are driven through the Preferences section of the Workbench and custom printer drivers must be installed in the devices directory if your printer is not directly supported — the quality of printed output is a function of the printer itself. The file format used by IMAGES is IFF — this is a standardised AMIGA structure for data allowing portability between applications. Established IFF standards being supported by Commodore-AMIGA cover graphics, audio and text files and aims to achieve full integration of user data. For example you can freely interchange files created in Aegis ANIMATOR (reviewed in this issue) or DE-LUXE PAINT or GRAPHICAFT.

So there it is — a piece of software that is not onyl functional and fast but provides an excellent vehicle for user creativity. It is very difficult in the course of a couple of thousand words to adequately describe Aegis IMAGES. To fully appreciate this product you have to see it in the hands of someone who is familiar with both the hardware and software. Note just how fast the creative cycle is. Then, try it for yourself — your perspective on personal computer graphics will be changed forever after this.

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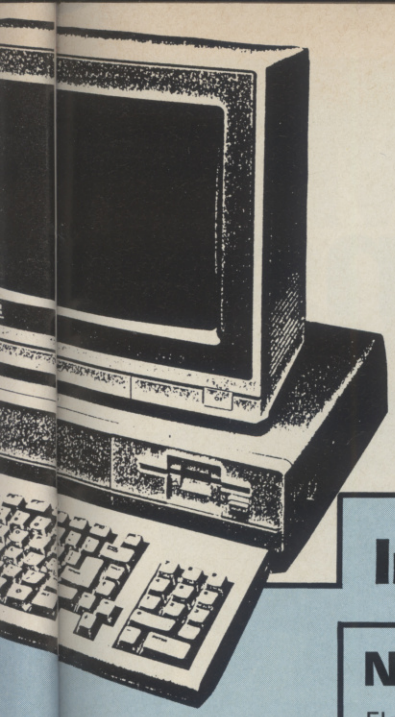

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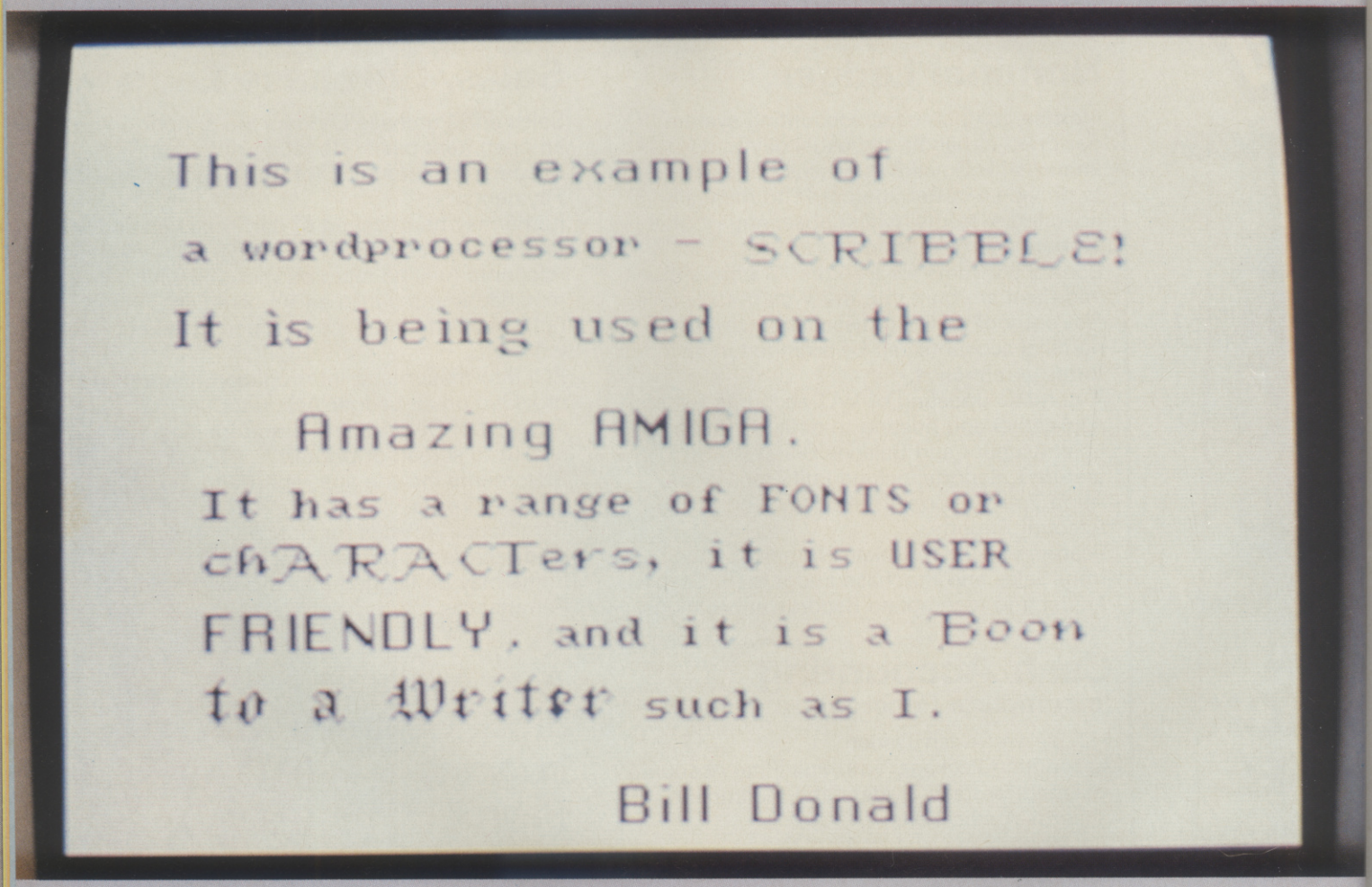
Wordprocessing on the Amiga

Textcraft and Scribble



This is a much favoured subject of mine — I have to take more than just a passing interest in wordprocessing being a professional writer. The software is only one half of the wordprocessing equation, the other being the hardware. Therefore, the total equation for me represents the very tools of my chosen trade, and naturally like any craftsman I look to the all-embracing question of 'value for money'. The wordprocessing requirements of a writer/journalist are very different from those of a secretary/-typist/casual user — a writer tends to make more severe demands on the overall system. What I look for above all else is security of my data, in other words I must not be able to burst the my eyes out of their roots after some 8 hours of use. The AMIGA addresses the hardware requirement fairly and squarely and I have no complaints at all in that direction. My own system with two 3.50 inch drives and one 5.25 inch drive which provides me with a little over 2.0MB of on-line storage; the 1070 monitor has a frosted screen which minimises reflection whilst the brightness and contrast controls have sufficient range to cover the most arduous of viewing conditions, including direct sunlight.

What wordprocessing software is available for the AMIGA at present? So far I have managed to locate two, both of which take completely different approaches to the varying demands placed upon them by the user.They are TEXTCRAFT and SCRIBBLE!.

TEXTCRAFT is a U.S. product, marketed in the UK by Commodore. The software under any circumstances, short of catastrophic hardware failure.

The demands I make on the wordprocessing software tend to consist of massive text block shifts with extensive cut and paste, fast spelling checks and continuous word count, multiple file inserts and block saves. In terms of the hardware, my requirements extend to a large memory to hold very large documents, very fast storage since my saving and loading cycles are quite intensive, capacious storage and not least, a screen display that is not going to pull

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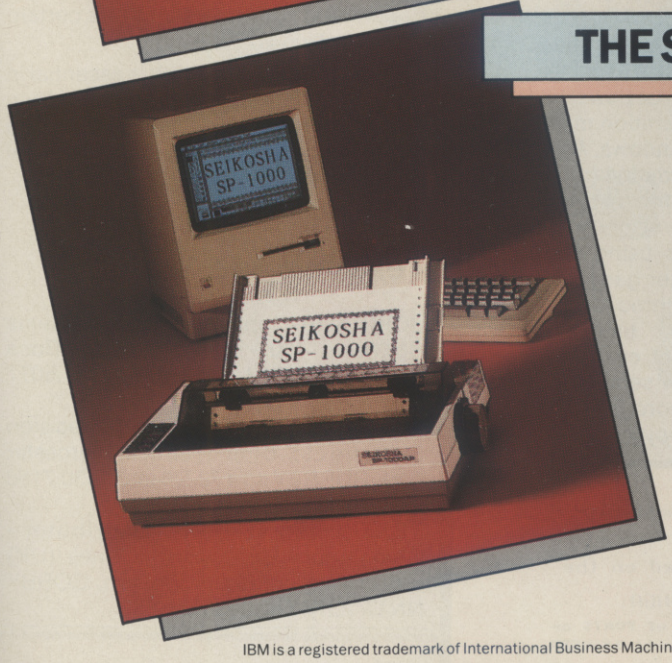
- Parallel & Serial Interfaces as standard.
- 2 Selectable modes (IBM PC or Epson FX compatible).
- Automatic cut-sheet loading and ejection after printing.
- Standard friction and detachable tractor. 10K Buffer as standard.



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THE FORCE IN DISTRIBUTION

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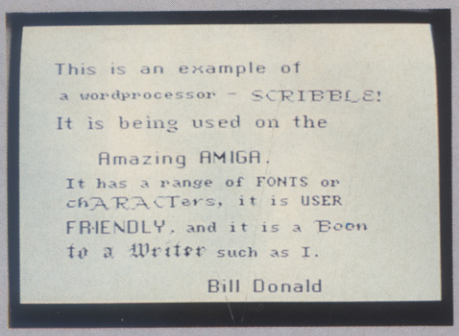
edition I looked at was version 1.0 and my comments relate to this version only. The product is supplied on a non-protected disk along with an extensive manual. The manual follows the excellent format and style of the AMIGA User Manual and is designed to fit into the ring binder supplied with the machine. TEXTCRAFT makes extensive use of the elements of INTUITION, the graphical overlay of the AMIGA operating system. These elements include mouse pointers that change shape and take on a form representing the current operation. For example during a cut and paste operation, the pointer changes to a pair of scissors for the cut and a heavy-duty paint brush during paste. During normal editing mode the pointer is shaped as a pencil and for copying a camera image is used. Some readers may scorn such things as being trivial and childish — in all fairness I also felt the same initially. However, I rapidly changed attitude on observing computer novices very quickly learn and produce some standup work in an extremely short space of time.

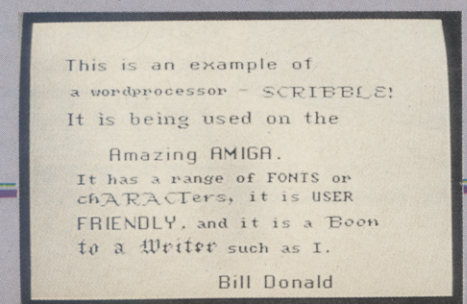
The actual wordprocessing facilities themselves were adequate as opposed to comprehensive. For example, no spelling checker and only one document in memory at once. However, the good points were: very fast reformatting of text, different fronts on-screen i.e. bold, italic, underline, subscript and superscript and fast cut and paste. TEXTCRAFT does not support block saves or inserts from disk and the file handling is clumsy. One feature I particularly liked was the inclusion of bare template documents such as business and personal letters, technical and business reports, memos and not least in these times of mass unemployment, a curriculum vitae. Another plus point was that TEXTCRAFT will also read in documents that were created using the NOTEPAD utility in the WORKBENCH.

Because of the visual appeal and hence ease of use TEXTCRAFT is a very good product. The type of purchaser on this version of the product I would envisage to be the light user/repetitive document category. Perhaps the real strength of TEXTCRAFT lies in teaching the elements of wordprocessing for example, in an office staff bureau or schools. It would almost certainly be a cost-effective approach given the other facilities the AMIGA offers particularly in terms of moving users from the AMIGA environment on to the drab world of PC-DOS which, in case you weren't aware the AMIGA can also support. If nothing else, you MUST go and see TEXTCRAFT in use, not only will it show you wordprocessing as it will be in the future, but also give you the feel of an AMIGA's graphics capabilities in a real-life application.



SCRIBBLE! comes from the same stable as ANALYZE! Spreadsheet, (also reviewed in this issue). The product is supplied on an unprotected disk, so backups are not a problem and a good user manual. The manual does not make too many concessions to learning about wordprocessing, but it does fully cover the facilities on offer from the product. SCRIBBLE! takes the much more conventional wordprocessing route and concentrates less on the visuals and more on the facilities. Obviously this product appealed much more to me as a writer — indeed, I decided to give SCRIBBLE! a realistic test of it's capabilities. This was done by writing *EVERYTHING* for this particular magazine issue using SCRIBBLE! Not only was SCRIBBLE! robust enough to withstand the vast amount of editing, but I never managed to lose a single character during this period.

A full range of format commands are available for headers, footers, offsets, soft-spaces, etc., all the usual paraphenalia of wordprocessing. Although a continuous word and character counter is available, no spelling checker yet, although this should be rectified in the next version which will be issued free to registered users. This also applies the mail merge facility which is also not present in the version of SCRIBBLE! under review (v1.01). SCRIBBLE! was undoubtedly more usable than TEXTCRAFT in terms of the facilities available. Probably the most powerful feature was the ability to partition memory and create additional windows. A document file could then be loaded into the window thus allowing the user to work on several documents at once merely by switching windows using the INTUITION depth-arranger gadgets. SCRIBBLE! would allow three documents in memory at any one time along with complete resizing of each window so that you could view segments of each document. Even more impressive was the ability to *cut, copy and paste across windows*. This is an extremely advanced feature demonstrating further the inherent strength of the AMIGA.



This 'cross-window' ability allowed me to edit my text very quickly indeed and naturally this was reflected in the best productivity figures I have ever achieved in one day. The next note will probably mean more to those readers who are also professional writers — the creativity process is not necessarily continuous and there are always those periods when the flow comes to a halt...solution:- carry another document in memory and switch to this when you become bored or tired of the apparently uninspired text. I found this to be the secret of dramatically increasing my own throughput.

SCRIBBLE! makes use of predefined format files which allow you to set printer control sequences and standard text lines such as letter headings, etc. However, one of the more useful abilities with these format files is to change screen and character colour which further reduced the 'boredom quotient' of wordprocessing when required. I also liked the facility which gave the option to save documents to disk in ASCII format. This is of particular value in terms of text portability across different applications such as other wordprocessors, spreadsheets and data communications between machines directly or using a modem.

Summarising both products I would say that neither has reached the status of being completely through their development cycle. However, do not let those words detract you from purchasing them. For one thing, there will be upgrades available and secondly they are robust enough to withstand the toll of daily use — I could get neither product to crash the system. Wordprocessing is a rather emotive subject in terms of personal computers and to a certain extent individual taste.

A demonstration of both is essential in order to appreciate fully and then decide which product will satisfy the user's requirements. My own personal choice at this stage is SCRIBBLE!

Textcraft and Scribble

SCRIBBLE! Supplier:- Micro-Systems Software, 4301-18 Oak Circle, Boca Raton FL 33431 USA. Tel: 305.391.5077

SCRIBBLE! — UK Distributor:- Precision Software Ltd., 6 Park Terrace, Worcester Park, SURREY KT4 7JZ. Tel: 01.330.7166

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